A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF POSITIVE THERAPY IN REDUCING THE LEVEL OF STRESS AMONG INFERTILE WOMEN ATTENDING THE SELECTED INFERTILITY CLINICS IN DINDIGUL DISTRICT

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.MGR MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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SUVARCHALA.M

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CERTIFICATE

This is a bonafide work of **Mrs.SUVARCHALA, M.Sc (N)** II Year Student from Sakthi College of Nursing, Dindigul, Tamilnadu, India, submitted in partial fulfillment for the Degree of Master of Science in Nursing under the Tamil Nadu Dr.M.G.R Medical University, Chennai.

Signature of the Principal _____

Prof. V.JANAHI DEVI M.Sc (N)

College Seal _____

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Approved by dissertation committee on …….

1. RESEARCH GUIDE: _____

Prof.V.JANAHIDEVI, M.Sc(N).,
Principal
Sakthi College Of Nursing,
Oddanchatram,
Dindigul. (DT)

2. CLINICAL GUIDE: _____

AssoProf.T.GANGAESWARI,M.Sc(N).,MBA.,
Dept .Obstetrics and Gynaecological Nursing
Sakthi College Of Nursing,
Oddanchatram,
Dindigul. (DT)

3. MEDICAL EXPERT: _____

Dr.AMALA DEVI, M.B.B.S., M.D., D.G.O.,
Annai perinbam hospital,
Dindigul (DT).

CERTIFIED BONAFIDE WORK DONE BY

Mrs.SUVARCHALA

SAKTHI COLLEGE OF NURSING,

ODDANCHATRAM,

DINDIGUL.

EXAMINERS:

1. _____

2. _____

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ABSTRACT

A Quasi experimental study to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics at Dindigul district was conducted by **Mrs.Suvarchala** as a partial fulfillment of the requirement for the degree of Master of Science in Nursing to the Tamilnadu Dr.M.G.R.Medical University, Chennai during the year 2013-2015.

The objectives of the study were

1. To assess the pre test and post test level of stress among infertile women in experimental group and control group

2. To evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women in experimental group.

3. To find out the association between the level of stress among infertile women and their selected demographic variables.

In this study, a quasi experimental non equivalent control group pretest and posttest design was adopted. Non probability convenience sampling technique was used to select each 30 samples in experimental and control group equally. Modified fertility problem inventory was used to assess the level of stress. Experimental group received the intervention of positive therapy.

In experimental group, majority 13(43%) of infertile women belonged to the age group of 25-28 years, 22(73%) of them were Hindus, 16(53%) of them had primary education,27(90%) were housewives, 12(40%) of their monthly income of the family was in between Rs5,000-10,000, 21(70%) of them belonged to nuclear family, 22(73%) of them had primary infertility, 20(67%) of their infertility duration was in between 3-5years, 17(57%)of their age at menarche was in between 13-15years and 18(60%) of their menstrual cycle was regular.

The pre test scores on the level of stress in experimental group were, none of them had low stress, 11(37%) had mild stress, 15(50%) had moderate stress, 4(13%)

had severe stress. Whereas in post test scores on the level of stress were 11(37%) had low stress, 11(37%) had mild stress, and no one had low stress.

The calculated‘t’ test value for overall modified fertility problem inventory was 3.46 which was highly significant at $P<0.001$ level. It was concluded that the positive therapy was highly effective in reducing the level of stress among infertile women

In experimental group, the obtained $\chi 2$ values shows that there was no significant association between the level of stress among infertile women and their selected demographic variables such as age, religion, education, occupation, family type, monthly income of the family, type of infertility, duration of infertility, age at menarche and menstrual cycle.

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CHAPTER-I

INTRODUCTION

"A mother's joy begins when new life is stirring inside...when a tiny heartbeat is heard for the very first time, and a playful kick reminds her that she is never alone."

-Emily Kearna

Fertility is highly valued in most cultures and the wish for a child is one of the most basic of all human motivations. For women, pregnancy and motherhood are developmental milestones that are highly emphasized by our culture. When attempts fail to have a child, it can be an emotionally devastating experience But in the past two decades, advances in reproductive medicine have made the treatment of infertility a highly successful prospect that has given hope and success to thousands of couples. The high-tech reproductive technologies have associated psychological and ethical issues that must be addressed by the infertile couple. Therefore, it is important for the health care professional to understand the psychological issues surrounding infertility.

Infertility involves suffering and being childlessness is a psychological trauma and it is this perceived undesirability that prompts patients & couples to seek professional help. Not everyone has the goal of becoming a parent, but for those who do, being unable to conceive a child is an exquisitely painful reality. Most of the people spend a portion of their lives attempting to avoid unplanned pregnancies, and assume that once we are ready to conceive, it will happen with little difficulty. The belief that psychological factors play a role in infertility is long-standing, and there is evidence that stress levels influence the outcome of infertility treatment, as well as contribute to patients' decisions to continue treatment.

The **World Health Organization** defines Infertility as "a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse (and there is no other reason, such as breastfeeding or postpartum amenorrhea). Primary infertility is infertility in a couple who have never had a child. Secondary infertility is failure to conceive following a previous pregnancy. (A woman under 35 has not conceived after 12 months of contraceptive-free intercourse. Twelve months is the lower reference limit for Time to Pregnancy by the World Health Organization. A woman over 35 has not conceived after 6 months of contraceptive-free sexual intercourse.)

The prevalence of infertility has increased over the past 10 years, with approximately 10 million affected couples in India. Female fertility is regulated by a series of highly coordinated and synchronized interactions in the hypothalamic-pituitary-ovarian axis. Therefore, female fertility can be affected by diseases or dysfunctions of reproductive tract, neuro endocrine system, and immune system or by any severe or exhausting general disease. The main cause of infertility in females include ovulation problems, tubal blockage, age related factors, uterine problems and previous tubal ligation.

Treatment methods for infertility may be grouped as medical or complementary and alternative treatments. If conservative medical treatments fail to achieve a full term pregnancy, the physician may suggest the patient undergo In-Vitro Fertilization and related techniques (ICSI, ZIFT) are called Assisted Reproductive Technology (ART).

Recent research tells that stress boosts levels of stress hormones such as cortisol, which inhibits the body's main sex hormones GnRH (gonadotropin releasing hormone) and subsequently suppresses ovulation, sexual activity and sperm count.

GnRH is responsible for the release of Luteinizing hormones and follicle-stimulating hormones by the pituitary, the suppression of testosterone, estrogens, and sexual behavior. Chronic stress may cause lack of libido as well as a decrease in general fertility. This has become such a common issue that they have created a name for it as Stress Induced Reproductive Dysfunction.

The most commonly posited theory as to why stress affects female fertility has to do with the hypothalamus, which is important for regulating certain metabolic processes in the body and stimulating the release of certain hormones. Stress can affect the release of hormones during ovulation, delaying the release of egg or making it less likely for viable eggs to be released. This can throw off ideal timing when trying to conceive.

Parenting is viewed by most of the couples as their central role in life, and the thought of not achieving it can be very upsetting. When fertility fails, the couples become psychologically depressed; some may feel frustrated and feel guilty; whereas some get angry to their fate and blame each other for the failure.

The socio-demographic factors of age, gender, marital status, education, and income have consistently been identified as important factors in explaining the variability in the prevalence of depression. The influence of culture plays an enormous role in individual responses to infertility. Parents, family tradition, social norms, and religion all play an important role in the transmission of values and gender roles to them.

Sexual dysfunction may have an etiological role in infertility or it may be a consequence of the disorder secondary to psychological stress in either one or both partners, sexual and relationship abnormalities we detected are secondary to infertility. Sexual infertility stress has been defined as loss of enjoyment of sexual

relations, feelings of pressure to schedule sexual relations, and loss of sexual self-esteem. Sexual infertility stress can interfere with early medical interventions (e.g., medication coupled with timed intercourse) and with infertility evaluations associated with the use of more advanced technologies.

Infertility is a stressful experience for most couples, and there is growing evidence that stress makes infertility worse. First, infertility is a stressful experience. Most women don't anticipate that having a baby, which seems so easy for many others, will be difficult or impossible for them. Any time we find a major life goal is blocked, it's natural to respond with anger, frustration, and sadness. These are common reactions in both men and women dealing with infertility. The longer infertile couples have been trying to conceive, the more stressed they become as they experience month after month of disappointment. Second, stress makes infertility worse. Stress has a measurable impact on the body's functioning, wearing it down over time. Our bodies react to stress with increases in adrenaline and other hormones that tend to speed up, make more alert, and allow to respond to danger quickly.When stress is chronic, as in the case of infertility, our bodies are continuously responding to stress. Over time, this takes a toll on the person, and creates imbalances in their hormone system that can have an impact on fertility. Third, reducing stress and depression may improve the fertility.. A person with negative perception will also have negative thoughts. Negative thoughts lead to negative beliefs, which are more often irrational. These negative beliefs in the long run affect a person's mental health as well as physical health. Positive therapy aims at modifying negative thoughts, beliefs, emotions and behavior by using counseling.

Referrals for short-term counseling are common — especially to increase coping strategies, or to provide help with making decisions (as patients face many choices during treatment). Patients who experience prolonged changes in mood or sleep patterns or who have relationship problems should seek a more comprehensive evaluation, as these may be signs of anxiety or depression.

Ideally, counseling should begin before patients start infertility treatment, as some studies — though not all — suggest that addressing psychological factors such as depression, anxiety, and stress may help increase the chances of giving birth to a child. Clinicians working with infertile patients can provide information on how to manage fatigue, reduce stress and anxiety, and improve communication with others

Specific types of therapy like interpersonal therapy (which focuses on improving relationships or resolving conflicts with others) and cognitive behavioral therapy (which identifies and tries to change unhealthy patterns of thought or behavior), psychotherapy and relaxation techniques (mindfulness meditation, deep breathing, guided imagery, and yoga) can give relief to infertile patients suffering from mild to moderate depression.

NEED FOR THE STUDY

Parenthood is not an object of appetite or even desire. It's an object of will. There is no appetite for parenthood; there is only a purpose or intention of parents"

- Robin G.Collingwood

A Systematic Analysis of 277 Health Surveys stated that **,**due to population growth, the absolute number of couples affected by infertility increased from 42.0 million (39.6 million, 44.8 million) in 1990 to 48.5 million (45.0 million, 52.6 million) in 2010.

Infertility is a acquiring a portion of global epidemic with the prevalence rate of approximately 8-12%. It is estimated that globally 60-80 million couples suffer infertility every year of which probably between 15-20 million (25%) are in India alone. According to **WHO**, at the end of 2012, one in every 4 couples in developing countries had been found to be affected by infertility.

International Institute of Population Science(2014) created a report; infertility is growing at an alarming pace, especially in the cities. Out of around 250 million individuals estimated to be attempting parenthood of any giving time, 13-19 million couples likely to be infertile. Nearly 30 million couples in the country suffer from infertility and making the incidence rate of 10-20%. Total infertility rate in South Indian states are;in Karnataka:2.04%.in Andhra Pradesh:1.84%, Kerala:1.7% and Tamil Nadu:1.6%.[11] In every 100 couples,40% of males suffering from infertility compared to 50% women and remaining 10% is the causes of both men and women. Results from another parallel survey conducted among 100 infertility specialists showed that nearly 63 % of the infertile couples belonged to the childbearing age (31-40), Nearly 34 percent of the couples, aged between 21 and 30.

Lynch (2014) in the **journal Human Reproduction**, stated that they have put out the first prospective study showing an association between stress and infertility. They measured stress using biomarkers in the saliva of women who wanted to conceive, and found a strong correlation with alpha-amylase. The women who had the highest levels of this salivary stress biomarker had a 29% decreased probability of pregnancy over time, and that actually translated into a more than two-fold risk of infertility for them by the end of the study."

Infertility is a medical condition that can touch every aspect of one's life -- from the way one feel about herself, to her relationship with her partner, to her overall perspective on living. It can also be stressful in that it creates a great deal of uncertainty and emotional disturbances in her day-to-day world.

Dorothy Greenfeld (2010), Director of Behavioral Services at the Yale Fertility Center, says that the whole process of undergoing fertility treatment is pretty nerve racking, partly because it's a series of hurdles that must be jumped at each step of the way. It's a period of time that in and of itself is very stressful. For coping with such disturbances and stress one has to focus attention on her mind and body which will bring a calmer perspective to her life.

The biological process were thought to be the predisposing factors for women to depression including genetically determined vulnerability, undue sensitivity to such hormonal fluctuations in biological systems may cause depression. Psychological events such as role –stress, victimization, sex – specific socialization, internalization coping style, and poor social support system have been considered as contributing factors for women to develop depression.

Shahnaz Kohan et al.,(2015) in his qualitative study revealed that infertility affects women's different aspects of sexual life, especially disturbance in femininity-body image and sexual reluctance. With regard to women's willingness to protect their matrimonial life and prevent sexual trauma as a destroying factor for their family's mental health, it seems sexual counseling is necessary for infertile couples.

Infertility management should be viewed holistically because the medical, psychological, spiritual and socio-cultural components of infertility are inseparable and need to be addressed simultaneously. The medical components of infertility are often emphasized at fertility treatment centers unlike the other components. Some clients have unexplained infertility and will benefit from psychological interventions

A person with negative perception will also have negative thoughts. Negative thoughts lead to negative beliefs, which are more often irrational. These negative beliefs in the long run affect a person's mental health as well as physical health. Many women find a way to cope on their own, or they seek support from friends, family, or one of the many infertility support groups now available in person and online. But others need additional help.

Kupka(2013) reported that psychological interventions led to spontaneous pregnancy in 14% of the cases which might have resulted from treatment of stress. In a study conducted at Harvard Medical School on 184 women going through infertility, of those who went through the Mind/Body Program for Infertility, **55%** had a viable pregnancy within one year. This is compared to only **20%** of the control group achieving a viable pregnancy in one year.

Natesan, a psychologist developed Positive therapy**,** which is aimed at modifying negative thoughts, belief's, emotions and behavior by using a number of techniques like Relaxation therapy, counseling and exercises. If you stop negative

thoughts, you may be more able to care for yourself and handle life's challenges. Healthy thinking also involves calming your mind and body.

In positive therapy the individual is made to understand that worrying about the past or future is unnecessary and unwanted. The individuals are trained to live in the present and enjoy the present. Positive therapy helps to replace debilitating negative thoughts with positive self-enhancing thoughts. It helps in the development of positive personality traits such as courage, confidence, cheerfulness, optimism etc… and making them to face their problems with a smile.

It is assumed that when negative thoughts are replaced by positive thoughts, the infertile women can become more realistic and reasonable in their perception. Thus the understanding of stress of infertile women can help us to design successful interventions to reduce stress, promote healthy adaptation and prevent them moving towards avoidance and denial.

From all the above research studies it was found evident that the infertile women are tend to have stress, which has an impact on their fertility life process, and also influence the infertility treatment. The investigator came across these issues, and felt that there is a strong need for psychological intervention among infertile women. So the investigator selected this topic i.e., reducing the level of stress among infertile women by administering positive therapy in Annai Perinbam hospital, where the samples are feasible.

STATEMENT OF THE PROBLEM:

A Quasi experimental study to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics in Dindigul district.

OBJECTIVES:

- To assess the pre test and post test level of stress among infertile women in experimental group and control group..
- To evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women in experimental group.
- To find out the association between the level of stress among infertile women and their selected demographic variables.

HYPOTHESIS:

- H_1; The mean post test level of stress will be significantly lower than the mean pre test level of stress among infertile women in experimental group .
- $H_{2;}$ The mean post test level of stress among infertile women in experimental group will be significantly lower than the mean post test level of stress among infertile women in control group .
- H_3; There will be a significant association between the level of stress among infertile women and their selected demographic variables.

OPERATIONAL DEFINITIONS:

- **Effectiveness**
  In this study, effectiveness refers to the extent to which practicing positive therapy has achieved the result as expressed in terms of level of stress reduced among infertile women**.**
- **Positive therapy**
  It is the therapy which facilitates sound mental health, leading to better adjustment through counseling which includes Interactive Cognitive Subsystem approach.
- **Infertility**

Infertility is defined as the failure to become pregnant after one year or more of unprotected intercourse, or six months if over 35 years old and is perceived as a problem in all cultures and societies.

- **Infertile women**

The married females who are unable to conceive within 12 months of their intention and trial to become pregnant.

- **Stress**

In this study stress refers to the alteration in functions of mind due to changes in the psychological status in response to stressors, such as age, diagnosis of infertility, period of infertility, procedural stress and uncertainty about treatment outcome as manifested by anxiety, depression .

ASSUMPTIONS:

- Level of stress will differ from each infertile woman.
- The physical, psychological & social environment will influence stress.
- The tool prepared for the study would be sufficient to assess the level of stress among infertile women.
- The infertile women who will be exposed to counseling may experience low level of stress**.**

DELIMITATIONS:

- Infertile women of age group between 25-40 yrs.
- The data collection period is limited to 6wks.
- The study is limited to infertile women, those who are not being succeed.
- The study is limited to those who are willing to participate in the study

PROJECTED OUTCOME:

- The study will be able to assess the level of stress among infertile women attending the selected maternity hospitals at Dindigul district.
- The positive therapy will be able to reduce the level of stress and to improve the coping strategies among infertile women.

CHAPTER-II

REVIEW OF LITERATURE

A literature review involves the systematic identification, location, scrutiny and summary of written materials that contain information on a research problem.

- (Polit and Beck, 2010)

Review of literature provides basis for future investigations that justifies the need for the study, throws light on the feasibility of study. This chapter has review of studies done, methodology adopted and conclusion obtained by other investigator which helps to study the problem in depth. The sources obtained are mostly from textbooks, journals and internet searches.

The review of literature in this chapter is organized under the following headings:

1. Reviews related to infertility related stress and its prevalence
2. Reviews related to impact of stress on infertility.
3. Reviews related to stress reduction strategies for infertility.
4. Reviews related to positive therapy on infertility

1. Reviews related to infertility related stress and its prevalence:

Holly SR, et.al, (2015), conducted a Prospective cohort study to examine the prevalence and predictors of major depressive disorder (MDD) for women and their partners during the course of fertility treatment during an 18-month period. Participants completed interviews and questionnaires at baseline and at 4, 10, and 18 months of follow-up. A total of 174 women and 144 of their male partners who did not have a successful child-related outcome during the time frame of the study. Of the women 39.1% and of the men 15.3% met the criteria for MDD during the 18-month

course of the study. The MDD was highly prevalent for fertility treatment patients and their partners.

Lynch CD (2014), conducted a prospective cohort study to investigate, women's stress levels prospectively associated with fecundity and infertility at Michigan and Texas, USA). A total of 401 (80%) couples completed the study protocol and 373 (93%) had complete data available for this analysis. Enrolled women collected saliva the morning following enrollment and then the morning following their first observed study menses for the measurement of cortisol and alpha-amylase, which are biomarkers of stress.. Among the 401 (80%) women who completed the protocol, 347 (87%) became pregnant and 54 (13%) did not. After adjustment for female age, race, income, and use of alcohol, caffeine and cigarettes while trying to conceive, women in the highest tertile of alpha-amylase exhibited a 29% reduction in fecundity. Higher levels of stress as measured by salivary alpha-amylase are associated with a longer time-to-pregnancy (TTP) and an increased risk of infertility.

Ajeet Vasant Saoji (2014), conducted a case-control study with a sample of 240 cases and controls selected randomly to find out some risk factors pertaining to female primary infertility. Data was collected using a constructed questionnaire including socio-demographic data. The author concluded that the significant risk factors for primary infertility among females are higher education (52%), age at marriage >25 (68%), postponement of child bearing for ≥1 year (74%), irregular menstrual pattern(70%), and age at menarche >14 years(42%). The researcher concluded that the treatment of infertility is expensive for the families especially in developing countries, identifying the risk factors can be of great help to prevent infertility in many females.

Nobel (2012) stated that depression in women is the leading cause of disease related disability among women. Epidemiological studies have shown that the life time prevalence of a major depressive disorder in women (21.3%) is almost twice that in men (12.7%). The biological process were thought to be the predisposing factors for women to depression including genetic ally determined vulnerability, undue sensitivity to such hormonal fluctuations in biological systems may cause depression. Psychological events such as role –stress, victimization, sex – specific socialization, internalization coping style, and poor social support system have been considered as contributing factors for women to develop depression

Downey et al (2011) conducted a prospective, longitudinal study to distinguish between subjective distress, symptoms, and clinical depressive disorders. A sample of 59 women presenting for infertility treatment were compared with 35 women presenting for routine gynecological care. Infertility patients and controls were not significantly different on self – report measures of partner satisfaction, sexual functioning, or self – esteem.. However, the infertility patients perceived themselves to have been already quite affected by their inability to conceive. For instance, 49.2% reported changes in their sexual functioning and 74.6% reported changes in their mood. He reported that the women who undergo treatment for infertility frequently report depression

Sumera Ali(2011), conducted cross-sectional survey to assess Knowledge, perceptions and myths regarding infertility among selected adult population in Pakistan by interviewing a sample of 447 adults in Karachi, Pakistan. Only 25% correctly identified when infertility is pathological and only 46% knew about the fertile period in women's cycle. People are misinformed that use of IUCD (53%) and OCPs (61%) may cause infertility. Beliefs in evil forces and supernatural powers as a

cause of infertility are still prevalent especially amongst people with lower level of education. Seeking alternative treatment for infertility remains a popular option for 28% of the participant as a primary preference and 75% as a secondary preference. IVF remains an unfamiliar (78%) and an unacceptable option (55%).

Bjorn, J (2011) conducted a survey involving 281 patients awaiting assisted reproduction treatment at five centers in three countries and 289 population controls to investigate whether the patients had experienced more negative emotional feelings and negative emotional impact during periods when they were attempting to conceive. The survey was carried out using questionnaires of the self-administration type. One in four (24.9%) of women had scores indicating depressive disorders as compared with only 6.8% of the controls... Both prior to consultation and during diagnosis and treatment, women with fertility problems had a higher prevalence of reported negative psycho-emotional experiences than women without fertility problems.

Omu FE (2010), conducted quantitative and qualitative methods to evaluate the emotional reactions of couples attending a combined infertility clinic in Kuwait and successful clients' perception of nurses by semi-structured interviews. The average duration of infertility was 4 years; 65.7% of the women and 76.1% of men suffered from primary infertility. Emotional reactions experienced were: anxiety in women (12.7%) and men (6%), depression in women (5.2%) and men (14.9%) and reduced libido in women (6.7%) and men (29.9%). The study illuminated the emotional reactions of infertile clients. Fertility nurses in Kuwait can provide emotional support through communication.

Drosdzol (2009) conducted a cross sectional study to evaluate the influence of infertility on the severity of anxiety and depression with a sample of infertile couples (206 women and 188 men) and fertile couples (n = 190) measured by the Beck

Depression Inventory and Beck Anxiety Inventory. Among infertile women 35.44% scored above the cut-off for severe symptoms of depression, compared with 19.47% of fertile women. With regard to anxiety there was a significant total prevalence among infertile women i.e.15.53% with a time-frame of 3-6 years. The investigator concluded that the risk factors of depression and anxiety in infertility would be being female sex, age over 30 years, lower level of education, lack of occupational activity, diagnosed male infertility and infertility duration of 3-6 years.

Lund (2009), conducted a prospective cohort study to investigate the impact of social relations on the incidence of severe depressive symptoms among infertile women and men with a sample of 695 participants (355 women and 340 men) measured severe depressive symptoms with Mental Health Inventory 5 from Short-Form 36, functional aspects of general social relations and of infertility-specific social relations. The study reported that 15% of women and 6% of men with unsuccessful treatment reported severe depressive symptoms at T2. It was concluded that among women and men, low appreciation from the family, many conflicts and high excessive demands from family, friends and neighbors were significant determinants of severe depressive symptoms.

Volgsten H, et.al.,(2008), conducted a study to determine the prevalence of psychiatric disorders in infertile women and men undergoing *in vitro* fertilization (IVF) treatment. Participants were 1090 consecutive women and men, 545 couples, attending a fertility clinic in Sweden during a two-year period. The Primary Care Evaluation of Mental Disorders (PRIME-MD), was used as the diagnostic tool for evaluating mood and anxiety disorders. Overall, 862 (79.1%) subjects filled in the PRIME-MD patient questionnaire. Major depression was the most common mood disorder, prevalent in 10.9% of females and 5.1% of males. Anxiety disorder was

encountered in 14.8% of females and 4.9% males. He concluded that Mood disorders are common in both women and men undergoing IVF treatment .

Chen TH, et.al., (2004), conducted a cross sectional study to investigate the prevalence of depressive and anxiety disorders in an assisted reproductive technique in Reproduction Outpatient Clinic at the Taipei Veterans General Hospital using a structured interview, the Mini-International Neuropsychiatric Interview (MINI). Of a total of 112 participants, 40.2% had a psychiatric disorder. The most common diagnosis was generalized anxiety disorder (23.2%), followed by major depressive disorder (17.0%), and dysthymic disorder (9.8%). Depressive and anxiety disorders were highly prevalent among women who visited an assisted reproduction clinic for a new course of the treatment.

2. . Reviews related to impact of stress on infertility

Mariana Veloso Martins (2014), conducted a Longitudinal cohort study using latent growth modeling to compare the trajectories of infertility-related stress between patients who remain in the same relationship and patients who repartner**.** Childless men and women evaluated before starting a new cycle of fertility treatment and observed for a 5-year period of unsuccessful treatments. The majority of patients (86%) remained with their initial partner, but 14% of participants separated and re-partnered while pursuing fertility treatments. These findings suggest that high infertility-related stress levels before entering fertility treatment can negatively affect the stability of marital relationships and lead to re-partnering.

Olivius (2014) conducted a prospective cohort study to investigate the reason for discontinuing from the IVF in Center for reproductive medicine at a large university hospital with a sample of 450 couples by sending a questionnaire. The reason for discontinuation was psychological burden in 26%, a poor prognosis in 25%,

spontaneous pregnancy in 19%, physical burden in 6%, serious disease in 2%, and other reasons in 7%. The study concluded that majority of these discontinuations were due to 62 psychological stress. Findings suggest that this information need to be kept in mind when counseling patients during treatment.

Batool Hasanpoor A, et.al.,(2014) conducted aqualitative study to explain the psychological consequences of infertility in Iranian infertile women seeking treatment using qualitative content analysis on 25 women affected by primary and secondary infertility. Data were collected using 32 semi-structured interviews In this study, among the couples who had been reported in women's using hormone injections, 53% reported discomfort on the treatment that failed, and 44% expressed anxiety while being treated. 49% of them reported they felt uncomfortable when they were around pregnant women or couples with children. He concluded that the infertility is often treated as a biomedical issue in with less attention on the mental-emotional, social and cultural aspects.

Mariana Veloso Martins (2013), conducted a cross-sectional study to identify whether perceived social support from partner, family, and friends associated with increased infertility-related stress **with a** sample of 613 Portuguese patients participated, selected in online over a 3-month period, and in a public fertility clinic over 11 months The final sample comprised 213 married . (191 from the fertility clinic). Perceived social support was assessed through the Multidimensional Scale of Perceived Social Support and infertility-related stress was assessed with the fertility problem inventory**.** The variance of the model in women's fertility stress was greater (21%) than that (15.6%) for the combined actor and partner effects in men's fertility stress (male partner support, female partner and family support). The findings

reinforce to involve the male partner throughout the whole treatment process of infertility .

Soheila Ehsanpour (2009) conducted a descriptive correlative study on to investigate the relationship between social support and stress of infertility treatment among75 couples (150 subjects) who referred to clinics of Isfahan for professional treatment of infertility. Data were collected by a questionnaire The mean score of infertility treatment related stress was 58.68 and 86.7% of couples experienced average to severe stress in professional treatments for infertility. The highest and lowest score of social support were 23.28 and 84.45 for spouse support and 2nd and 3rd level relatives, respectively. There was an inverse correlation between social support and infertility treatment related stress. It seems necessary to provide educational courses for couples on different techniques of reducing stress, counseling and information and emotional support.

Khademi (2008) conducted a cross-sectional study, in a tertiary university hospital to determine the prevalence of sexual dysfunction in infertile couples in 100 infertile couples by using Sexual Function Questionnaire (SFQ) and International Index of Erectile Function (IIEF) questionnaire Among them only 7% of women scored within normal range in all five dimensions. The prevalence of female sexual dysfunction was highest and lowest in arousal-sensation (80.2%) and orgasm (22.8%) domains, respectively. The role of demographic factors, relationship parameters, and **infertility** per se in the prevalence of sexual dysfunction in infertile couples remains to be determined.

Verberg (2008) conducted a cohort study on IVF patients aged <38 years to identify the role of the treatment strategy applied,and potential other factors that influence the decision of couples to discontinue treatment.. Of the 384 couples who

were studied, 17% dropped out of IVF treatment. The physical or psychological burden of treatment was the most frequent cause of drop-out (28%). The application of a mild treatment strategy (mild ovarian stimulation along with the transfer of a single embryo) significantly reduced the chance of drop-out (hazard ratio (HR) 0.55; 95% confidence interval (CI), 0.31–0.96).. Women face a lot of pressures to produce a biological child, and go through all kinds of treatments, including the expensive ART. The application of a mild treatment strategy and managing patient's expectations might reduce drop-out rates.

Ernestina S.Donkor,(2007) conducted a qualitative study to investigate the relationship between perceived stigma and infertility-related stress using face-to-face interviews in three languages with 615 women receiving infertility treatment on three health sites in Southern Ghana. The majority (64%) of women in this sample felt stigmatized, multiple regression analysis indicated higher level of perceived stigma were associated with increased infertility related stress. women with higher education felt less infertility related stress. The findings suggest that the **social status** of infertile women derived from other factors can be of importance in minimising the impact of stigmatisation and stress related to infertility.

Rajkhowa (2005) conducted a longitudinal study to identify the major factors that influence the decision to discontinue IVF treatment among 1510 couples who had undergone IVF treatment at Nine Wells Hospital and Medical Schools at Dundee and Scotland. The couple's response rate was 55% (732/1327) with 183 questionnaires returned as address were unknown. A total of 515 couples had discontinued treatment at the time of response, with 266 (52%) having achieved a live birth. Those who did not conceive gave a combination of reasons such as lack of personal and/or National Health Service funding as cited by 23% of couples. Lack of success and psychological

stress were reported as factors by 23% and 36% of couples respectively. Better information and support are needed to improve the continuation rates.

3. Reviews related to stress reduction strategies for infertility

Tahereh Hamzeh Pour (2014), was conducted an experimental study with the aim of investigating the effect of Cognitive Behavioral Therapy (CBT) on anxiety in infertile women. For this purpose among all the women who had referred to Mehr Professional Clinic during 4 months in Rasht with using Cattle Anxiety Scale 30 people who had high anxiety randomly selected and randomly assigned to two 15 subjects experimental and control groups. The experimental group went under CBT for 8 sessions of 90 minutes. The calculated F ($P < 0.001$, $F = 326.99$, d.f = 1/27, Eta =0.92) because the significance level is less than 0.001, thus the calculated F is statistically significant that this findings suggest that CBT is effective in reducing anxiety.

Fatemeh Ramezanzadeh, et.al.,(2011), conducted an experimental on 140 couples (280 patients) with depression (from mild to severe) to evaluate the effect of psychiatric intervention on the pregnancy rate of infertile couples. Three questionnaires, the Beck Depression Inventory (BDI), the Stress Scale (Holmes-Rahe), and a socio-demographic questionnaire, were administered to all patients before and after treatment. Patients in the experimental group received 6–8 sessions of psychotherapy (individually) before beginning infertility treatment and were given Fluoxetine (antidepressant) at 20–60 mg per day during the psychotherapy period. The clinical pregnancy rate was compared between the two groups based on sonographic detection of gestational sac 6 weeks after the last menstrual period. Pregnancy occurred in 33 (47.1%) couples in the treatment group and in only 5 (7.1%) couples in the control group. It is concluded that it is crucial to mandate

psychiatric counselling in all fertility centres in order to diagnose and treat infertile patients with psychiatric disorders.

Mahboubeh Valiani, et.al,(2010) conducted a semi-experimental study to determine the effect of relaxation on the infertile women's stress score. A total of 76 women aged be-tween18-35 years old referred to Isfahan Infertility Clinic randomly divided into two groups. At the beginning, the stress scores were assessed in both groups using Newton's infertility stress questionnaire and then, the relaxation technique was implemented on the intervention group. This technique was performed in twelve sessions. The educational level of most women was high school graduates and less (65%) and most of the men were also high school graduates and less (68.2%). Most of the women were housewives (78.8%) The majority of the women had menstrual regularity (75.8%).The post test stress level in experimental group is 17% and control is 76%. Relaxation technique can reduce the stress score in infertile women as a complementary and alternative medicine method.

Poehl (2010) conducted a qualitative study to assess the relation between Psychotherapeutic Counseling and Pregnancy Rates in In Vitro Fertilization. The study comprised 1156 consecutive patients (Mean age, 33.3 years) and 1736 in In Vitro Fertilization (IVF) cycles. *s***everal methods of psychological support during IVF–embryo transfer treatment were offered to patients** like psychotherapy, hypnotherapy, relaxation and physical perception exercises. The results revealed that 70.8% of patients rejected PSITCO, 17. 8% had already received PSITCO, and 10.4% were willing to undergo PSITCO. The cumulative calculation of pregnancy rates showed that up to 56.4% of women who had undergone PSITCO conceived. In patients who were planning to undergo PSITCO, the pregnancy rate was 41.9%.**These**

results should encourage sterility specialists to consider psychological therapy as an essential aspect of IVF.

Schmidt L, et.al, (2005), conducted a longitudinal cohort of 816 participants to investigate Communication and coping as predictors of fertility problem stress. Data were based on self-administered questionnaires measuring communication with partner and with other people, coping strategies. Among both men and women, difficulties in partner communication predicted high fertility problem stress (odds ratio for women, 3.47, 95% confidence interval 2.09-5.76; odds ratio for men, 3.69, 95% confidence interval 2.09-6.43). Active-avoidance coping was a significant predictor of high fertility problem stress.. The only factor that was significantly associated with pregnancy outcome was emotionally expressive coping (adjusted odds ratio, 1.272; 95% confidence interval, 1.06-1.52). Women who coped by expressing their emotions were more likely to get pregnant than were women who did not.

4. Reviews related to positive therapy on infertility

Jayasudha,(2014) conducted an experimental study to determine the impact of positive therapy upon the stress levels in infertile women attending the selected Centre for reproductive medicine at selected hospitals, Coimbatore with a sample of 120 randomly assigned into control and experimental group. The pretest stress was assessed on day 2 of the menstrual cycle and the post test stress was assessed on day 14 of the menstrual cycle. The instruments used for data collection were demographic variable proforma, biological variable proforma, and stress reactions to infertility inventory. The positive therapy was implemented only for the experimental group of women for 5 times from day 3 to Day7and they were asked to continue to practice by listening to the audio cassette given to them on positive therapy. The control group infertile women reported a stress level is 65% severe in the posttest. Whereas the

experimental group the stress level is 12% test .It was concluded positive attitude will reduce the stress during infertility.

Kousalya K (2013), Conducted a quantitative study to measure depression, anxiety and stress (DAS) in infertile women and to assess the impact of counseling on these DAS levels with a sample of 230 women of age ≥ 18 yrs in the op infertility clinic of Obstetrics and Gynecology department of Sri Ramachandra Hospital by using a DASS21 questionnaire. Counseling was given to the study group (115 women) once in 15 days for a period of 3 months and the impact of counseling on DAS was assessed. Again the control group was also counseled and the effect of counseling was assessed. In the study group, 48(42%) were conceived after 3 months of counseling whereas in the wait-listed group, only 11(9.5%) were conceived. The wait-listed control group (n=115) was reduced to n=94, since 10 did not come for follow up and 11 were conceived. After 6 months, control group was also counseled, outcome became 34.77%. The pregnancy rate was increased after counseling and thus counseling had a positive effect on infertile women

Leili Mosalanejad M.D et.al.,(2012) conducted an experimental study to determine the effect of group cognitive behavioral therapy (CBT) to reduce stress, anxiety and depression of infertile women referring to Gynecological clinics of Jahrom University of Medical Sciences . 31 women were randomly divided into experimental group (n=15) and control group (n=16). The participants in the experimental group received 1 hour and 30 minute weekly session's group therapy in 15 week as intervention. (DASS) normalized Persian version was used to assess psychological distress in pre-posttest. The age range of samples were 20-25 years (9.67%), 26-31 years (77.42%) and 31-35 years (12.95%). 9.63% of them were employed and the other were housewives (90.37%). 12.91% had a bachelor's degree,

70.96% of them graduate from high school and 16.13% of others had primary to medium school education. t-values for post test DAS score of experimental group are 0.117,0.219, 0.697 whereas in control group were 0.21, 1.39, 1.47. Differences between DASS test in level of stress (p=0.000), anxiety (p=0.001) and depression (0.007) in treatment group pretest with posttest. Therefore the level of psychological distress in experimental group was decreased after intervention.

John Orav et.al.,(2012) conducted a randomized, controlled, prospective study To determine if women who were randomized to a mind/body program before starting their first IVF cycle would have higher pregnancy rates than control subjects with a sample of 143 women aged ≤40 years who were about to begin their first IVF cycle at private academically affiliated infertility center. Subjects were randomized to a ten-session mind/body program (MB) or a control group and followed for two IVF cycles. Only 9% of the MB participants had attended at least one-half of their sessions at cycle 1 start. Pregnancy rates for cycle 1 were 43% for all subjects; 76% of the MB subjects had attended at least one-half of their sessions at cycle 2 start. Pregnancy rates for cycle 2 were 52% for MB and 20% for control. It was concluded that MB participation was associated with increased pregnancy rates for cycle 2, prior to which most subjects had attended at least half of their sessions.

Alice Domar (2010), conducted the "randomized, controlled, prospective trial" to demonstrate a relationship between women who received some form of psychosocial support during infertility treatment and pregnancy outcome with a sample of 250 infertile women. Domar's findings that 55% of the cognitive behavioral group and 54% of the support group achieved a viable pregnancy compared to 20% of the control suggest "that group interventions may lead to both improved psychological state as well as increased pregnancy rates

Nyboe Andersen A, et.al., (2007) conducted an interventional study at the Fertility Clinic, Denmark to evaluate a patient education programme focussed on improving communication and stress management skills among couples in fertility treatment. couples (approximately 500) attending the Fertility Clinic during 12 months received information about the five training courses, and applicants were admitted consecutively by LS.). Finally, 37 couples completed the course. Two teachers conducted all the five courses offered. Stress was assessed by questionnaires immediately before (time T1) and after the intervention (time T2) and at a 12-month follow-up (time T3); response rates were: T1, 93.2%; T2, 85.1%; T3, 74.3%. Data were compared at baseline (T1) and at the 12-month follow-up (T3) with a prospective cohort of 2250 new fertility patients in Denmark. More participants started to talk often with their partner about infertility and its treatment after the intervention compared to those who stopped to talk often. The intervention resulted in important perceived improvement in the participants' and competence to actively manage changes in marital communication and in communication in different social areas.

CONCEPTUAL FRAMEWORK

A conceptual framework can be defined as a set of concept and assumptions that integrate them into a meaningful configuration **(Polit and Beck 2010).**

A conceptual framework facilitates communication and provides systematic approach to nursing research, educational status, administration and practice.

The conceptual framework selected for this project is Wiedenbach's Helping Art Model for Clinical Practices (1964).It consists of three factors central purpose, prescription, and realities of the situation.

1) CENTRAL PURPOSE:

It refers to what the nurse want to accomplish. It is an overall goal towards which a nurse strives.

In this study, the central purpose of the researcher was to reduce the level of stress among infertile women.

2) PRESCRIPTION:

It refers to plan of care for a client. It will specify the nature of action that will fulfill the nurse central purpose.

In this study, prescription was administering the positive therapy to infertile women.

3) REALITY:

It refers to the physical, psychological, emotional and spiritual factors that come into play in a situation involving nursing actions.

The five realities identified by Wiedenbach are agent, recipient, goal, means and framework.

The conceptualization of nursing practice according to this theory consists of three steps as follows,

- Step-I: Identifying the need for help
- Step II: Ministering the needed help
- Step III: Validating that the need for help was met.

Step-I: Identifying the need for help

The investigator identified the need for reducing the level of stress among infertile women through collecting the data of demographic variables and assessing the level of stress by modified fertility problem inventory.

Step-2: Ministering the needed help

After identifying the need for reducing the level of stress among infertile women, positive therapy was administered once 40 minutes for 4 alternate days.

Agent : Investigator

Recipient : Infertile women in the age group of 25-40years attending the selected infertility clinics.

Goal : Reducing the level of stress

Mean activity : Administering Positive Therapy 40 minutes for 4 days

Framework : Selected infertility clinics at Dindigul district

Step-3: Validating that the need for help was met

It is accomplished by means of post test on level of stress among infertile women using Modified Fertility Problem Inventory. The pretest and posttest level of stress will be compared. The effectiveness of positive therapy among infertile women in experimental group will show reduction in level of stress , whereas the infertile women in control group will show no significant change in level of stress .

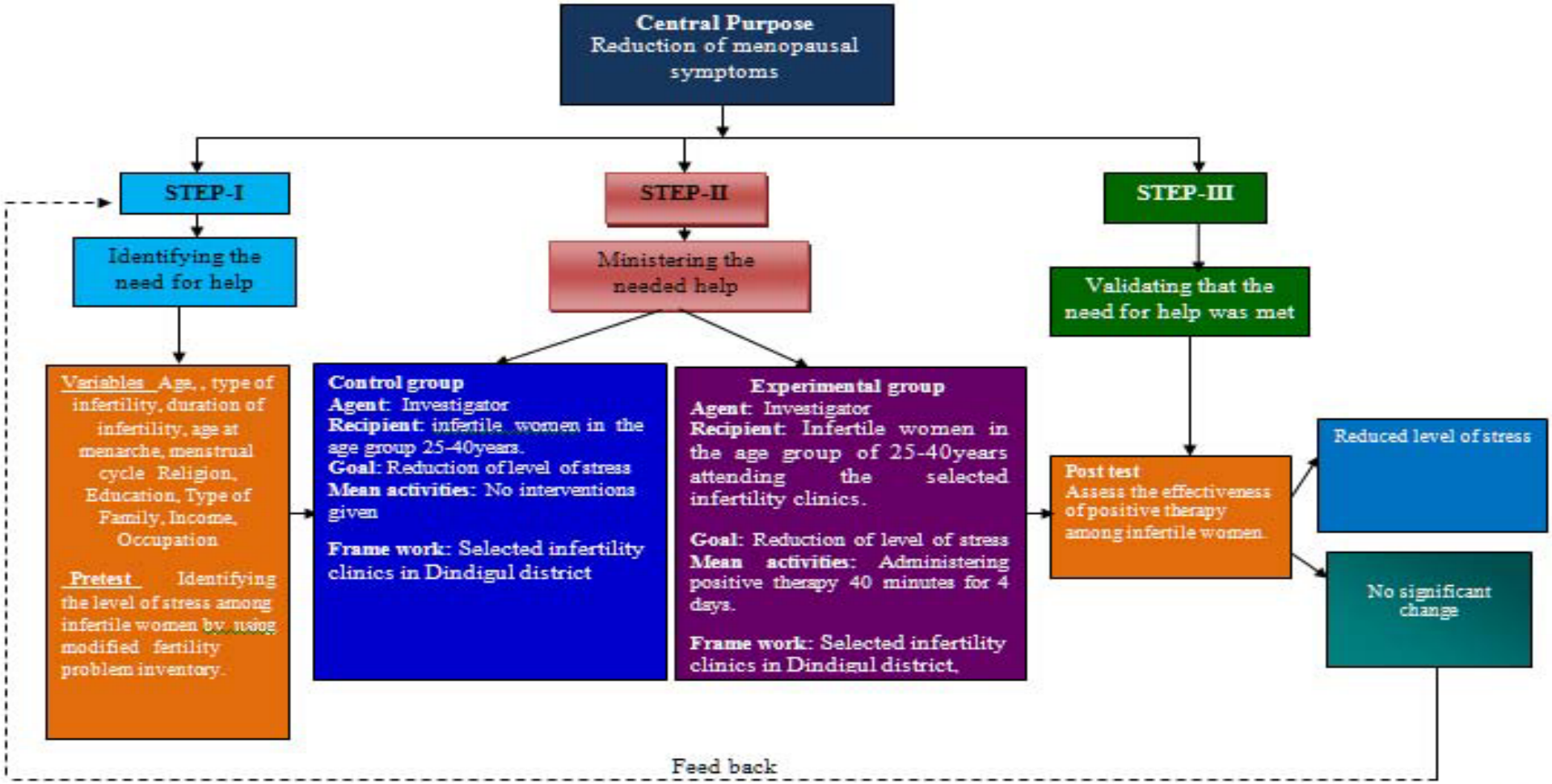

Figure 1. Conceptual Frame Work Based on Wiedenbach's Helping Art of Clinical Nursing Theory (1964)

CHAPTER – III

METHODOLOGY

The methodology of research indicates the general pattern of organizing, the procedure for gathering valid and reliable data for the problem under investigation. **(Polit and Beck, 2010)**

Methodology is a significant part of any study, which enables the researcher to logically project the research undertaken. Research methodology is the systematic way to carry out an academic study and research in flawless manner.

This chapter includes research design, population, size of the sample, sampling technique, development of the tool, content validity, pilot study, ethical consideration, data collection procedure and plan for data analysis.

Research Approach:

The investigator adopted a quantitative evaluative approach because the aim of the researcher was to determine the effectiveness of positive therapy in reducing the level of stress among infertile women**.**

Research Design:

Quasi experimental design involves the manipulation of an independent variable that is an intervention. Quasi experimental design lacks randomization, the signature of a true experiment (Polit and Beck, 2010)

Selection of the design is based on the purpose of the study. The research design used for this study was quasi experimental design with non equivalent control group pre and post test design. In this design, samples were selected by Non probability convenience sampling technique to the experimental and control group.

GROUP	PRETEST	MANIPULATION	POSTTEST
EXPERIMENTAL GROUP	O_1	X	O_2
CONTRO			O_2

KEYS:

O_1 = Assessment of level of stress among infertile women (pre test)

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infertility, age at menarche, menstrual cycle, religion, education, occupation and

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Settings of the Study:

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This study was conducted in selected infertility clinics in Dindigul district

The samples of the experimental group were selected from Annai Perinbam hospital,

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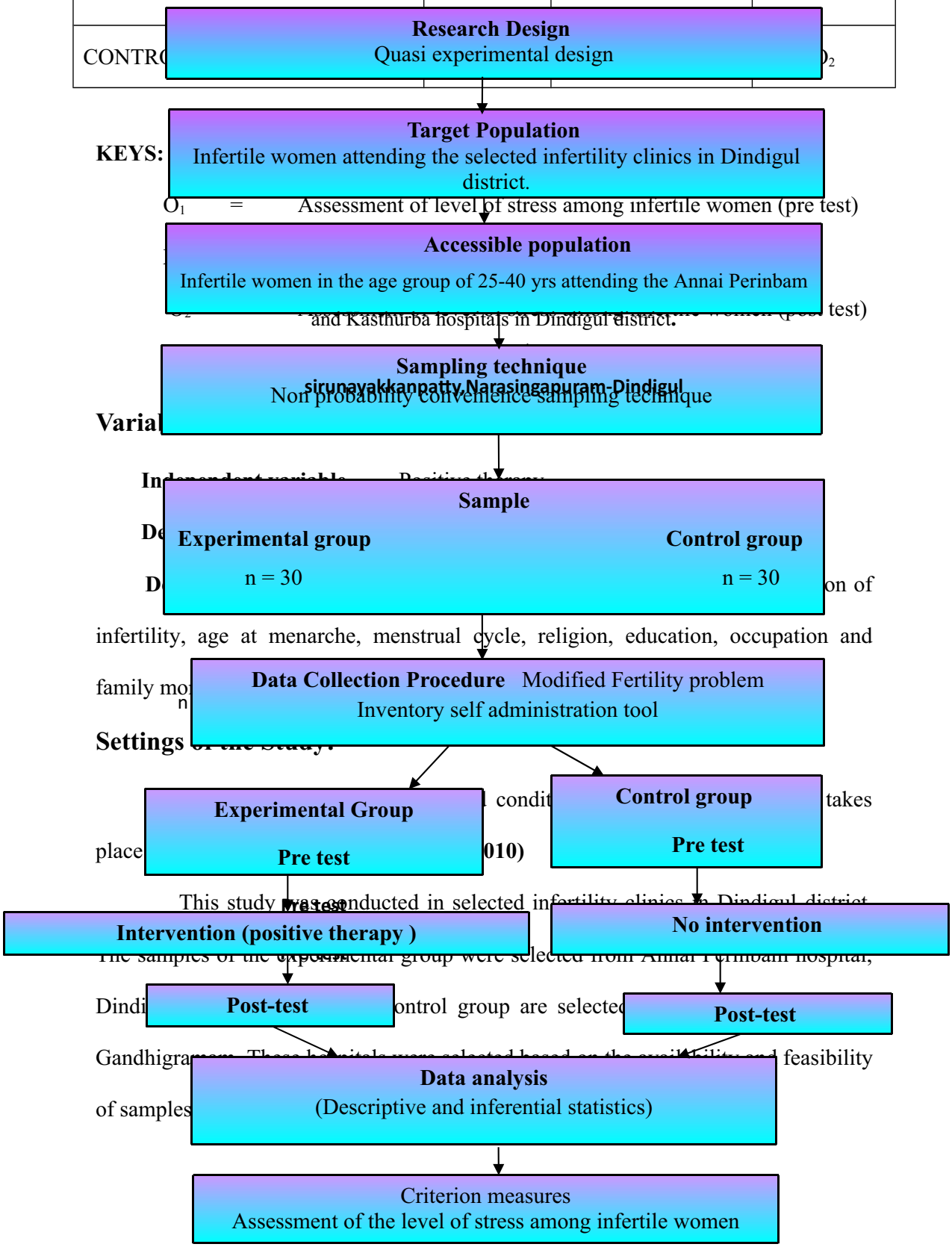

Figure 2.Schematic Representation of Research methodology.

Population:

A population is the entire aggregation of cases that meet a designated set of criteria. (Polit, D.F, and Beck, 2010)

Target Population: The target population comprises of infertile women attending the selected infertility clinics in Dindigul district.

Accessible population: It comprises of infertile women attending the Annai Perinbam and Kasthurba hospitals in Dindigul district between the age group of 25-40 years

Sample/Sample Size:

A sample of 60 infertile women who fulfilled the criteria were selected. 30 samples are assigned for the experimental group and 30 for the control group.

Sampling Technique:

The Convenience sampling technique was adopted for this study.

Criteria for sample selection:

Inclusion criteria

The study includes the infertile women

- In the age group of 25-40 yrs.
- Of both primary and secondary type infertility attending the selected infertility clinics.
- Who can able to read and write Tamil.

Exclusion criteria

The study excludes the infertile women those who are

- Not willing to participate in the study.
- Having medical illness at the time of data collection.
- Already exposed to positive therapy

DESCRIPTION OF TOOL:

Part I - Demographic variable

Demographic variables like age, type of family, type of infertility, duration of infertility**.** Age at menarche, menstrual cycle religion, education, occupation, and family monthly income are studied.

Part II – Modified Fertility problem inventory

The modified Fertility Problem Inventory was designed to measure the distress, beliefs, and attitudes related to infertility. . This is a multidimensional

measure that identifies infertility-related stress in five different domains, namely, social concern, sexual concern, relationship concern, the need for parenthood, and rejection of a child-free lifestyle. Respondents were asked to indicate their agreement with each question using a six-point Likert rating scale ranging from "strongly disagree" to "strongly agree".

DOMAINS	NO. OF QUESTIONS
Social concern	6
Sexual concern	6
Relationship concern	6
Rejection of child-free lifestyle	4
Need for parent hood	6

SCORING PROCEDURE:

1. Positively phrased items* are first re-keyed as follows;

(6=1, 5=2, 4=3, 3=4, 2=5, 1=6)

2. Global Stress is calculated by summing all items (or all 5 subscale scores)

SCORING INTERPRETATION:

SCORE	LEVEL OF STRESS
< 25%	Low stress
26- 50%	Mild stress
51-75%	Moderate stress
>75%	High stress

Level of stress was assessed before and after the intervention.

VALIDITY AND RELIABILITY OF TOOL:

The degree to which an instrument measures, what it is intended to measure. (Polit, D.F., and Beck, 2010)

Validity of the tool was obtained from five experts in the field of Nursing and one from the field of medicine.

Reliability refers to the degree of consistency or dependability with which an instrument measures an attribute (Polit, D.F., and Beck, 2010)

The Modified Fertility Problem Inventory was a well accepted instrument to measure the distress, beliefs and attitudes related to infertility. The Reliability of the tool is calculated by using chron's alpha formula and reliability is found as 0.94.

PILOT STUDY:

A small scale version, or trial run, done in preparation for a major study. **(Polit and Beck, 2010)**

Pilot study was conducted to assess the level of stress among 6 infertile women 3 in experimental and 3 in control group and also to assess the feasibility and practicability of the study. The finalized tool was administered. It was found feasible for infertile women. They can able to follow the instruction easily and well cooperated. It induced the investigator to select suitable statistical tools.

PROCEDURE FOR DATA COLLECTION:

The main study was conducted in February (2015) with the written permission of concerned and formal permission from the authority of Sakthi college of nursing

.The participants of the study were selected by convenient sampling technique. Formal permission was obtained from the participants after explaining the objectives of the study. All the women aged between 25-40 years from the selected clinics were screened related to infertility and inclusion criteria. Among them, 60 women were recruited and assigned as 30 in the experimental group and 30 in the control group. The data related to pretest was collected by using Modified Fertility problem inventory for both the groups on 2nd day of LMP. Experimental group received intervention of positive therapy under four sessions 1st on 2nd day of LMP, 2nd on 10th day, 3rd on 12th day & 4th on 14th day. (At the first session, the subjects got familiar with goals, definition of infertility, depression generation and its symptoms and the relationship between depression and infertility. In addition, relaxation practicing. The second session was allocated to the identification of thoughts and feelings. The third session focused on thoughts. Mindfulness and meditation were also practiced. At the fourth session, they were instructed to cope with their mood status in future) . No intervention was given to the control group. Post test was conducted for both the groups using the same scale on 21st day.

WEEKS	**SAMPLES**		**ACTIVITY**
	CONTROL GROUP	**EXPERIMENTAL GROUP**	
1st week	14	10	Pre test (control group) Pre test- Intervention(Experimental group)
2nd week	10	12	Pre test (control group) Pre test- Intervention (Experimental group)

3rd week	6	8	Pre test (control group) Pre test- Intervention(Experimental group)
4th week	14	10	Post test
5th week	10	12	Post test
6th week	6	8	Post test

STATISTICAL ANALYSIS:

The statistical method used for analysis was descriptive and inferential statistics. The data related to demographic variables was analyzed by using descriptive measures (frequency, percentage). Inferential statistics of t-test was used to evaluate the effectiveness of positive therapy among infertile women. Chi-square test was used to associate the stress dimensions among infertile women with their selected demographic variables.

PROTECTION OF HUMAN RIGHTS

Prior to data collection, written permission was obtained from the concerned authority. The purpose and other details of the study were explained to the study subjects and oral consent was obtained from them.

CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

'All meanings, we know, depend on the key of interpretation.'

-George Eliot

The process of evaluating data by using analytical and logical reasoning to examine each component of the data provided is data analysis . This form of analysis is just one of the many steps that must be completed when conducting a research experiment. Data from various sources is gathered, reviewed, and then analyzed to form some sort of finding or conclusion. There are a variety of specific data analysis method some of which include data mining, text analytics, business intelligence and data visualizations.

Analysis is a process of organizing and synthesizing data so as to answer research questions and test hypothesis. **(Polit and Beck, 2010)**

This chapter deals with analysis and interpretation of data collected to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics in Dindigul district. The data collected was compiled analized and interpreted as follow;

Section-A : Demographic variables of infertile women in experimental and control group.

Section-B : Level of stress among infertile women in experimental and control group.

Section-C : Effectiveness of administering positive therapy in reducing the level of stress among the infertile women.

Section-D : (a)Association between the level of stress in control group and their selected demographic variables.

(b)Association between the level of stress in experimental group and their selected demographic variables.

SECTION-A
Data on the demographic variables of infertile women in experimental and control group

Table: 1 Frequency and percentage distribution of infertile women according to their Demographic data (N = 30+30)

Demographic data	Experimental group		Control group	
	Frequency	Percentage	Frequency	Percentage

1.Age(in years):				
a) 25-28	13	43.33	17	56.67
b) 29-32	12	40	10	33.33
c) 33-36	5	16.67	3	10
d) 37-40	0	00	0	00
2.Family type :				
a) Nuclear family	21	70	24	80
b) Joint family	9	30	6	20
3.Type of infertility:				
a) Primary infertility	22	73.33	25	83.33
b) Secondary infertility	8	27.67	5	16.67
4**.Duration of infertility**:				
a) less than 3 years	3	10	4	13.33
b) 3 – 5 years	20	66.67	10	33.33
c) 6 – 8 years	4	13.33	11	36.67
d) above 8 years	3	10	5	16.67
5. Age at menarche:				
a) 10 – 12 years	4	13.33	6	20
b) 13 – 15 years	17	56.67	21	70
c) 16 – 18 years	9	30	3	10
d) above 18 years	0	00	0	00
6. Menstrual cycle:				
a) Regular	18	60	18	60
b) Irregular	12	40	12	40
7.Religion	22	73.33	26	86.67
a) Hindu	4	13.33	2	6.67
b) Muslim	4	13.33	2	6.67
c) Christian			3	
8.Education	1	3.33	20	10
a) Illiterate	16	53.33	5	66.67
b) Primary	12	40	2	16.67
c) Secondary	1	3.33		6.67
d)Higher Secondary &				

above			29	
9.Occupation	27	90	0	96.67
a) House wife	2	6.67	1	00
b) Agriculture	1	3.33	0	3.33
c) Private employee	0	00	0	00
d) Government employee	0	00		00
e) Others			14	
10.Family monthly income	9	30	10	46.67
a) Less than Rs 5000	12	40	6	33.33
b) Rs5,000 – 10,000	9	30	0	20
c) Rs10,000 – 15,000	0	00		00
d) More than Rs 15,000				

EXPERIMENTAL GROUP:

The above table shows that among 30 samples, with regard to **age,** 13 (43.33%) samples belonged to 25-28years, 12(40%) belonged to 29-32 years, 5 (16.67%) belonged to 33-36 years and none of them in the age group of 37-40 years.

With regard to **family type,** 21of the samples (70%) belonged to nuclear family and 9of the samples (30%) belonged to joint family.

Regarding **type of infertility,** 22(73.33%) had primary infertility and 8 of them (27.67%) had secondary infertility.

Regarding **duration of infertility,** 20 of them (66.67%) had infertility since 3-5 years, 4 had (13.33%) since 6-8 years, 3 (10%) had since more than 8 years and 3 (10%) had below 3 years.

Majority of the infertile women, 17 (56.67%) attained **menarche** at the age between 13-15 years, 9 (30%) attained between 16-18 years, 4 (13.33%) attained at the age between 10-12 years and none of them attained menarche after 18 years..

Regarding **menstrual cycle**, 18(60%) of the infertile women had regular cycle and 12 (40%) had irregular cycle.

Regarding **religion,** 22(73.33%) were Hindu, 4 (13.33%) were Muslim and 4 (13.33%) were Christian.

Regarding **education**, 16(53.33%) of them had completed their primary school education, 12(40%) of them had secondary education, 1(3.33%) had higher secondary education and above and 1(3.3%) were illiterate.

With regard to **occupation** 27 of the samples were housewives (90%), 2(6.67%) of them were agriculturist, 1(3.33%) was private employee and none of them were government employee and other occupation.

About **monthly income of the family,** was less than Rs5000 for 9(30%) samples, 12(40%) had income between Rs5000-10000, 9(30%) samples got their family income Rs10001-15,000 and no one had more than Rs15,000.

CONTROL GROUP

The above table shows that among 30 samples, with regard to **age,** 17(56.67%) samples were belonged to 25-28years, 10(33.3%) belonged to 29-32 years, 3(10%) of them belonged to 33-36 years and none were belonged to 37-40 years.

In relation to **family type,** 24(80%) of the samples were belonged to nuclear family and 6(20%) of the samples belonged to joint family.

Regarding **type of infertility,** 25(83.33%) had primary infertility and 5 (16.67%) had secondary infertility.

Regarding **duration of infertility,** 4(13.33%) of them had since less than 3 years, 10 (33.33%) had since between 3-5 years, 11 (36.67) had infertility since 6-8 years and 5 (16.67%) had since more than 8 years.

Majority of infertile women 21 (70%) attained **menarche** at the age between 13-15 years, 6 (20%) attained between 10-12 years, 3 (10%) between 16-18 years and no one attained at the age above 18 years.

Regarding **menstrual cycle,** 18(60%) of the infertile women had regular cycle and 12 (40%) had irregular cycle

Regarding **religion,** 26 (86.67%) were Hindu, 2 (6.67%) were Muslim and 2 (6.67%) were Christians.

Regarding **education,** 3 (10%) were illiterate. 20(66.67%) of them had completed their primary school education, 5(16.67%) had secondary education and 2(6.67%) of them had higher secondary education and above.

With regard to **occupation**, housewives were 29(96.67%), 1(3.33%) was private employee and none of them were agriculturist, government employees and other occupation.

About **monthly income of the family**, less than Rs5000 for 14(46.67%) samples, 10(33.33%) samples family income was in between Rs5001-10000, 6 (20%) samples got between Rs10,001 – 15,000 and no one received more than Rs15000.

It was concluded that, in both the experimental and control group, majority of them belonged to the age group of 25-28yrs, Hindu religion, primary school education, house wives, nuclear family, primary type of infertility, infertility duration between 3-5 years, attained menarche between 13-15 years of age, and had irregular menstrual cycle.

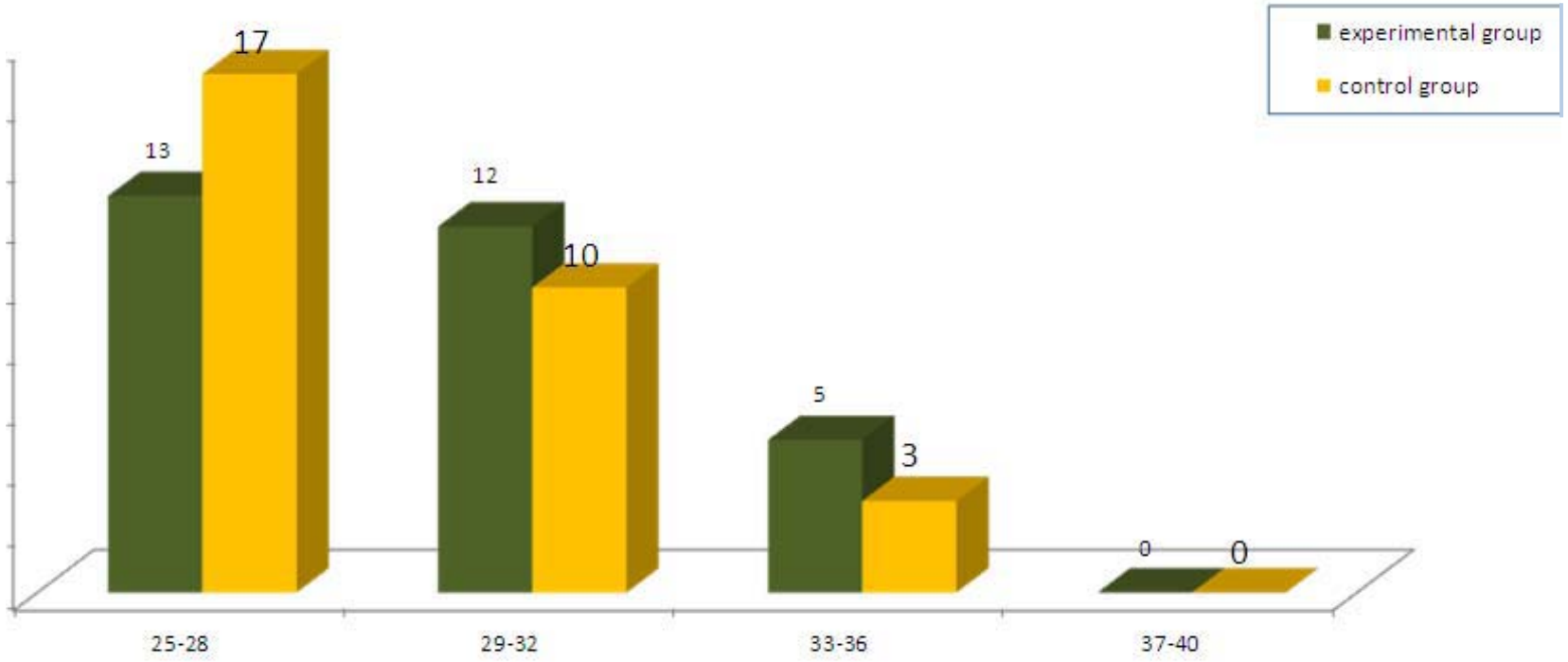

Figure: 3 Frequency Distribution of infertile women based on their age in years

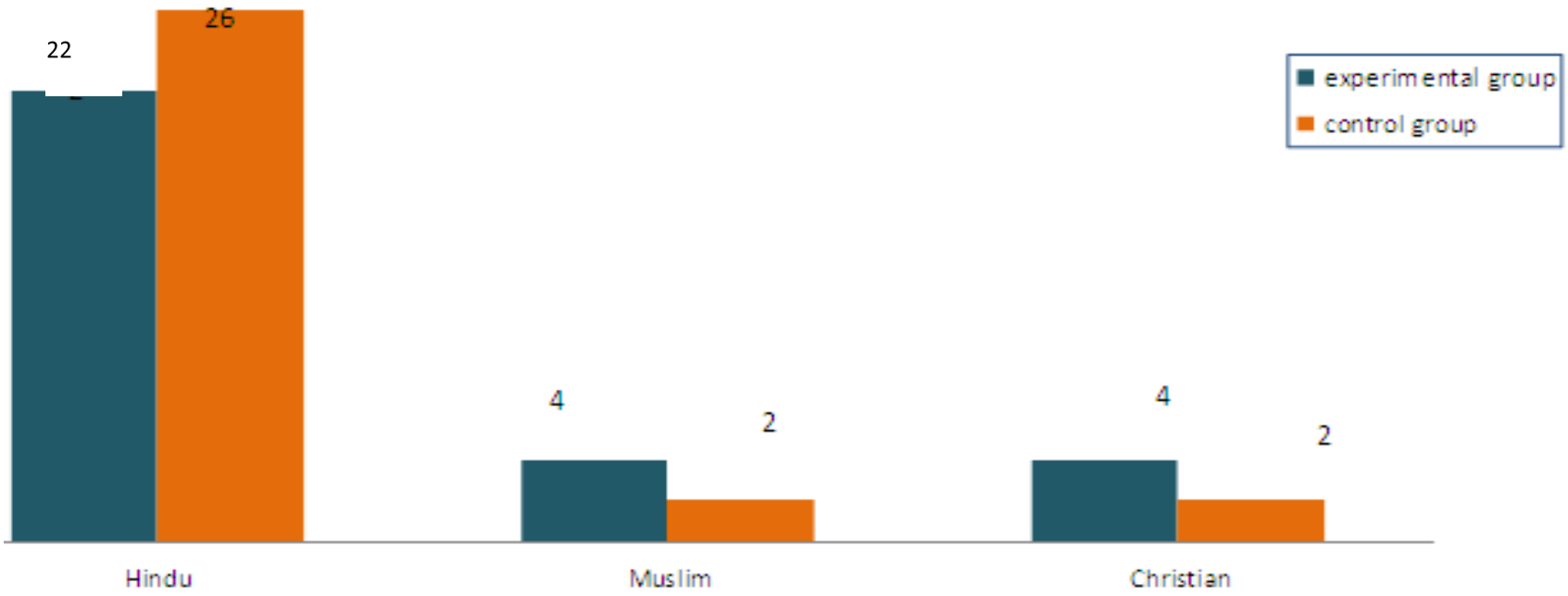

Figure 4 Frequency distribution of infertile mother based on their religion

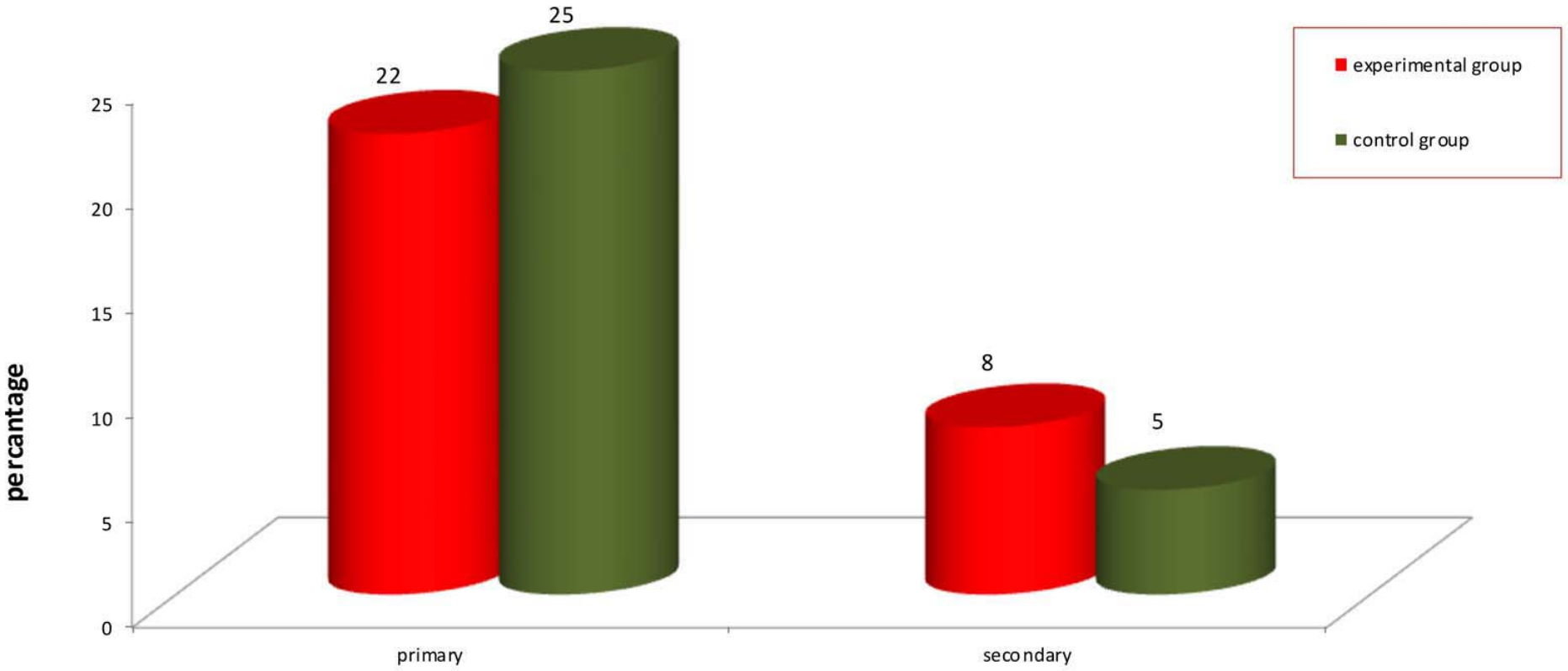

Figure 5, Frequency distribution of infertile women based on their type of infertility

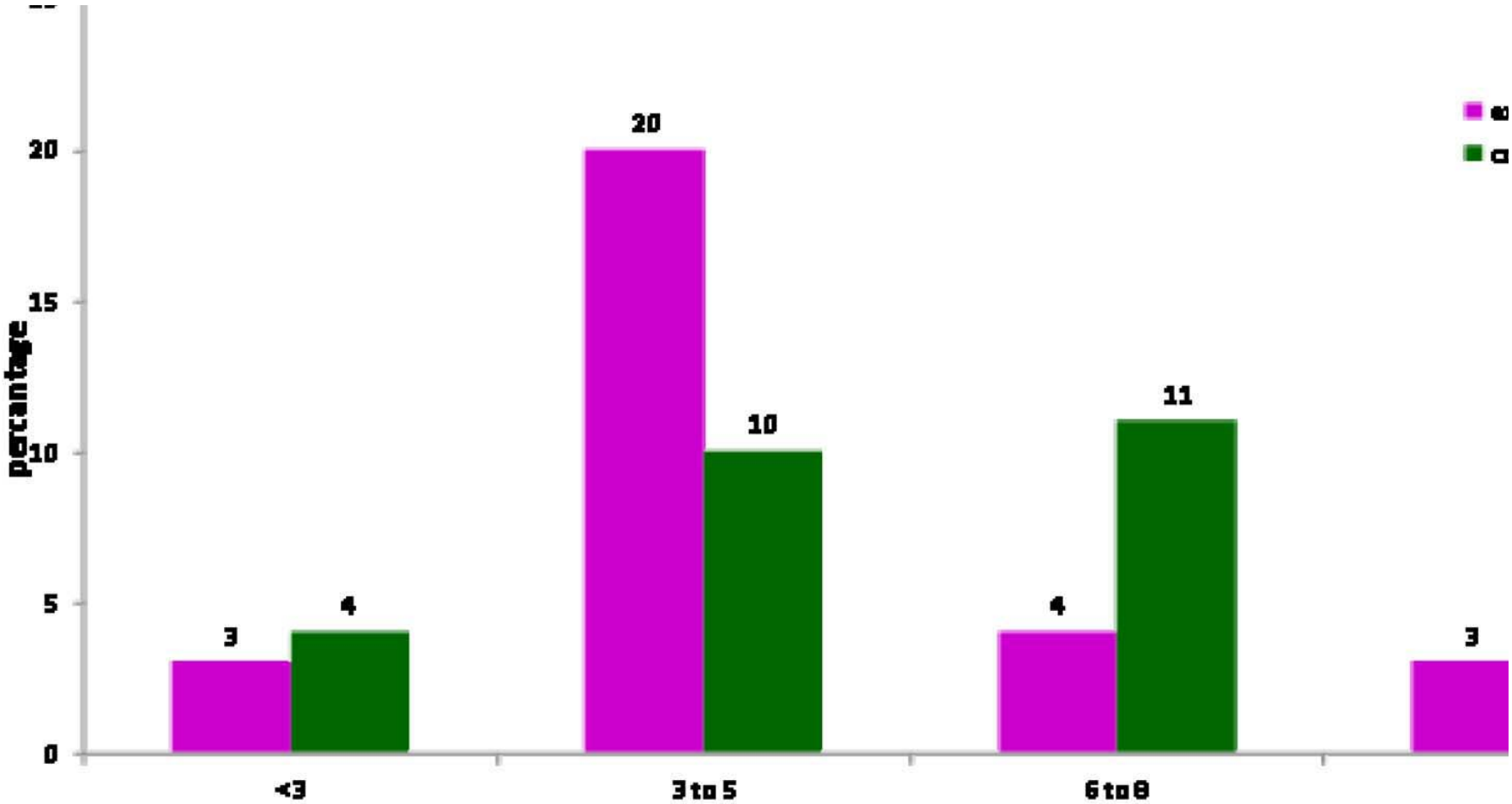

Figure 6, Frequency distribution of infertile women based on their duration of infertility in years

SECTION-B

Data on the level of stress among infertile women in experimental and control group.

Table: 2 frequency and percentage distribution of level of stress among infertile women in experimental and control group

(N = 30+30)

Level	Control group				Experimental group			
	pre test		post test		pre test		post test	
	f	%	f	%	f	%	F	%
Low	0	00	0	00	0	00	11	36.67
Mild	12	40	12	40	11	36.67	11	36.67
Moderate	14	46.67	15	50	15	50	8	26.67
severe	4	13.33	3	10	4	13.33	0	00

The above table shows that in control group the pre-test scores on the level of stress 12(40%) were had mild stress, 14(46.67%) had moderate stress, 4(13.3%) had severe stress and no one had low stress. respectively. Whereas in post-test scores on the level of stress were 12(40%) were had mild stress, 15(50%) had moderate stress, 3(10%) had severe stress and no one had low stress respectively.

In experimental group, the pre-test scores on the level of stress 11(36.67%) had mild stress, 15(50%) had moderate stress, 4(13.3%) had severe stress and no one had low level of stress respectively. Whereas in post-test scores on the level of stress 11(36.7%) were had low stress, 11(36.67%) had mild stress, 8 (26.67%) had moderate level of stress and no one had severe stress respectively.

These findings revealed that, in experimental group after the positive therapy, the level of stress among infertile women was decreased in post test as compared with pre test.

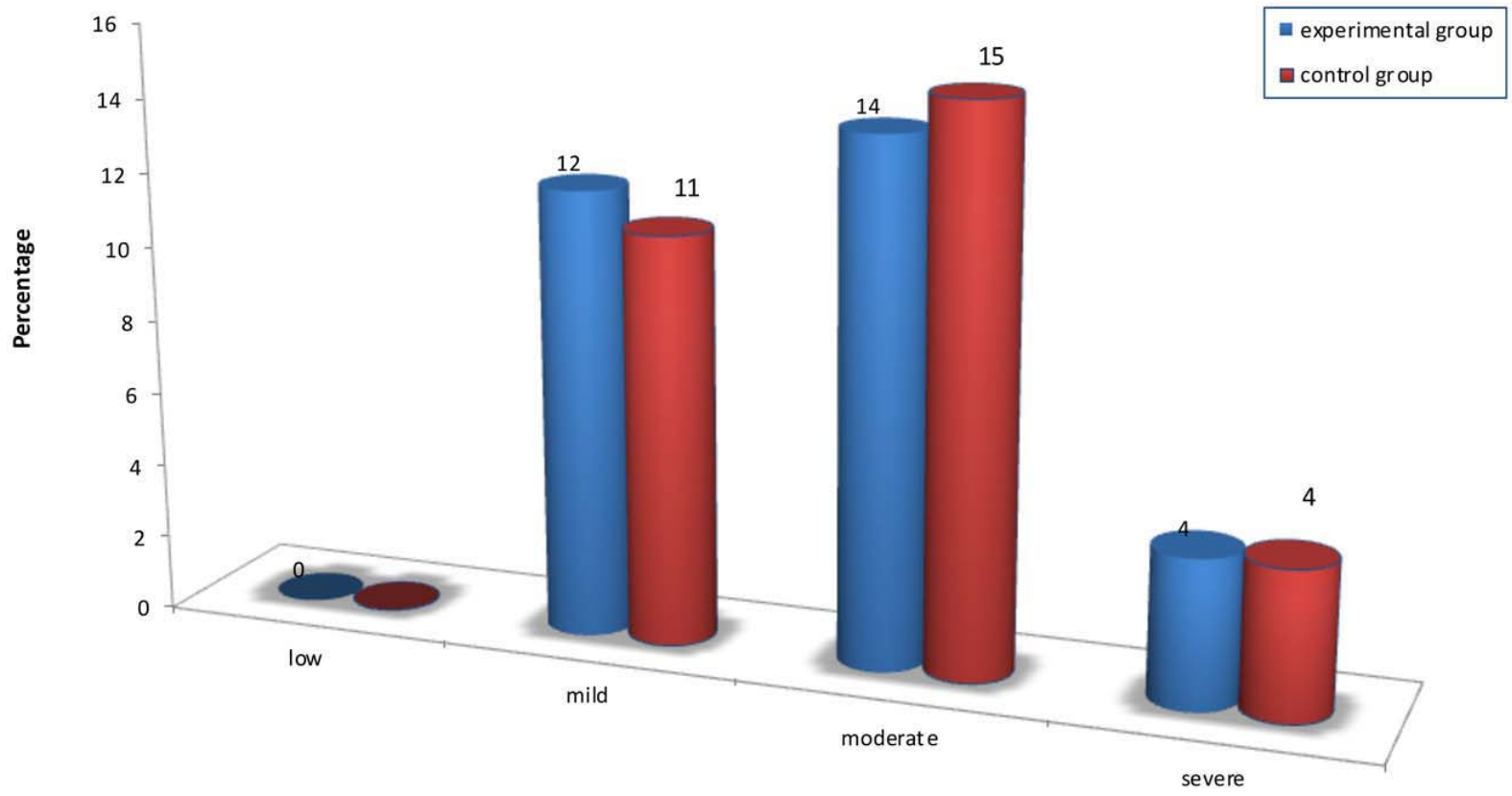

Figure 7, Frequency and percentage distribution of level of stress among experimental and control group in pretest

SECTION-C

Data on the effectiveness of positive therapy on reduction of stress among infertile women.

Table: 3:1 Mean, SD and 't' value on the level of stress in control group

N=30

Domains	Control pre test		Control post test		Mean difference	't'-value
	Mean	SD	Mean	SD		
1.Social concern	20.06	5.98	20.1	5.81	0.1	NS 0.04
2.Sexual concern	17.6	5.4	17.43	5.28	0.23	2*
3.Relationship concern	16.4	5.4	16.53	5.5	0.13	2.16*
4.Rejection of childfree lifestyle	15.6	4.08	15.9	4.03	0.3	NS 1.27
5.Need for parenthood	18.26	5.7	18	5.8	0.23	1.91*
over all	88.03	25.2	87.96	25.17	0.1	NS 0.63

(NS- non significant , *- significant at P<0.05)

The above table shows that the calculated value of 't' test of control group about social concern was 0.04, sexual concern was 2, relationship concern was 2.16, rejection of childfree lifestyle was 1.27 and need for parenthood was 1.91. The overall calculated 't' test value was 0.63 and which is not significant at $P<0.05$ level. It is concluded that there was no much difference in pre and post test level of stress in control group.

Table: 3:2 Mean, SD and 't' value on the level of stress in experimental group

N=30

Domains	Experimental pre test		experimental post test		Mean difference	't'-value
	Mean	SD	Mean	SD		
1. Social concern	20.5	5.04	15.1	6.07	5.4	**6.2*** **
2. Sexual concern	17.5	4.9	12.83	4.4	4.67	**6.18*** **
3.Relationship concern	16.53	6.21	12	4.8	4.53	**5.51*** **
4.Rejection of childfree lifestyle	18.7	2.23	12.4	4.8	6.3	**8.77*** **
5.Need for parenthood	19.7	4.01	13.6	5.10	6.1	**8.01*** **
over all	92.96	20.6	66.03	23.87	26.93	**8.15*** **

(***-P<0.001 Highly significant)

The above table shows that the calculated 't' test value of experimental group for social concern was 6.2, sexual concern was 6.18, relationship concern was 5.51, rejection of childfree lifestyle was 8.77 and need for parenthood was 8.01. The overall calculated 't' test value is 8.15 which was highly significant at P<0.001 level. It is concluded that the positive therapy was highly effective in reducing the level of stress among infertile women in experimental group.

Table: 3:3 Mean, SD and 't' value on the level of stress in experimental group and control group post test. (N=30+30)

Domains	Experimental post test		Control post test		Mean difference	't'-value
	Mean	SD	Mean	SD		
1.Social concern	15.1	6.07	20.1	5.81	5.06	**3.307****
2.Sexual concern	12.83	4.4	17.43	5.28	4.6	**3.65*****
3.Relationship concern	12	4.8	16.53	5.5	4.53	**3.406****
4.Rejection of childfree lifestyle	12.4	4.8	15.9	4.03	3.5	**14.76*****
5.Need for Parenthood	13.6	5.10	18	5.8	4.43	**3.14****
Over all	66.03	23.87	87.96	25.17	22.03	**3.46*****

(*-P<0.05- significant, **-P<0.01-moderately significant & ***-P<0.001 - Highly significant)

The above table shows that the calculated 't' test value for social concern was 3.307, sexual concern was 3.67, relationship concern was 3.406, rejection of childfree lifestyle was 14.76 and need for parenthood was 3.14 and also overall calculated 't' test value was 3.46 which was highly significant at P<0.001 level. It is concluded that the positive therapy was highly effective in reducing the level of stress among infertile women in experimental group.

SECTION-D

a) **Data on the association between the level of stress in control group and their demographic variables.**

Table: 4 Frequency and percentage distribution of chi-square value on control group

N=30

Demographic variables	Low		Mild		Moderate		Very severe		χ^2 -value
	F	%	F	%	f	%	F	%	
1.Age(in years):									
a) 25-28	-	-	10	33.3	7	23.	-	-	NS
b) 29-32	-	-	2	6.6	5	3	3	10	10.53
c) 33-36	-	-	-	-	2	16.	1	3.3	
d) 37-40	-	-	-	-	-	6	-	-	
2.**Family type :**						6.6			
a) Nuclear family	-	-	10	33.3	11	-	3	10	NS
b) Joint family	-	-	2	6.6	3		1	3.3	7.6
3.Type of infertility:						36.			
a) Primary infertility	-	-	12	40	9	6	4	13.	9.80*
b)Secondary infertility	-	-	-	-	5	10	-	3	
4.Duration of infertility:								-	NS
a) less than 3 years	-	-	4	13.3	-	30	-		1.85
b) 3 – 5 years	-	-	6	20	4	16.	-	-	
c) 6 – 8 years	-	-	2	6.6	8	6	1	-	
d) more than 8 year	-	-	-	-	2		3	3.3	
5. Age at menarche:						-		10	
a) 10 – 12 years	-	-	2	6.6	3	13.	1		
b) 13 – 15 years	-	-	8	26.6	10	3	3	3.3	NS 6.12
c) 16 – 18 years	-	-	2	6.6	1	26.	-	10	

d) above 18 years	-	-	-	-	-	6	-	-	
6. Menstrual cycle:						6.6		-	
a) Regular	-	-	8	26.6	6		4		
b) Irregular	-	-	4	13.3	8	10	-	13.	NS
7.Religion						33.		3	5.77
a) Hindu	-	-	9	30	14	3	3	-	
b) Muslim	-	-	2	6.6	-	3.3	-		NS
c) Christian	-	-	1	3.3	-	-	1	10	10.94
8.Education:								-	
a) Illiterate	-	-	1	3.3	1	20	1	3.3	
b) Primary	-	-	5	16.6	13	26.	2		NS
c) Secondary	-	-	4	13.3	-	6	1	3.3	5.78
d)HigherSecondary& above	-	-	2	6.6	-		-	6.6	
9.Occupation:						46.		3.3	
a) House wife						6		-	
b) Agriculture	-	-	11	36.6	14	-	4		22.26*
c) Private employee	-	-	-	-	-	-	-		
d) Government employee	-	-	1	3.3	-		-	13.	
e) Others	-	-	-	-	-	3.3	-	3	
	-	-	-	-	-	43.	-	-	
10.Monthly income of the						3		-	
Family						-		-	
a) less than Rs 5000	-	-	3	10	10	-	1	-	NS
b) Rs5,000 – 10,000	-	-	5	16.6	3		2		6.8
c) Rs 10,000 – 15,000	-	-	4	13.3	1		1		

e) more than Rs 15,000	-	-	-	-	-	46. 6 - - - 33. 3 10 3.3 -	-	3.3 6.6 3.3 -	

The above table shows that in control group, there was a significant association between the level of stress among infertile women and their selected demographical variables of occupation and type of infertility.

There was no significant association between the level of stress among infertile women and their selected demographic variables such as age, religion, education, family type, family monthly income, duration of infertility, age at menarche and menstrual cycle.

b) Data on the association between the pre test level of stress in experimental group and their demographic variables.

Table: 5 Frequency and percentage distribution of chi-square value on experimental group

N=30

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Demographic variables	Low		Mild		Moderate		Very severe		χ^2-value
	F	%	F	%	f	%	F	%	

1.Age(in years):									
a) 25-28	-	-	8	26.6	5	16.6	-	-	NS 7.77
b) 29-32	-	-	3	10	7	23.3	2	6.6	
c) 33-36	-	-	-	-	3	10	2	6.6	
d) 37-40	-	-	-	-	-	-	-	-	
2.Family type:									
a) Nuclear family	-	-	6	20	12	40	3	10	NS 5.5
b) Joint family	-	-	5	16.6	3	10	1	3.3	
3.Type of infertility:									
a) Primary infertility	-	-	9	30	11	36.6	2	6.6	NS 7.25
b) Secondary infertility	-	-	2	6.6	4	13.3	2	6.6	
4**.Durationof infertility**:									
a) less than 3 years	-	-	3	10	-	-	-	-	NS 4.11
b) 3 – 5 years	-	-	8	26.6	12	40	-	-	
c) 6 – 8 years	-	-	-	-	3	10	1	3.3	
d) more than 8 years	-	-	-	-	-	-	3	10	
5. Age at menarche:	-	-	1	3.3	3	10	-	-	NS 2.803
a) 10 – 12 years	-	-	7	23.3	8	26.6	2	6.6	
b) 13 – 15 years	-	-	3	10	4	13.3	2	6.6	
c) 16 – 18 years	-	-	-	-	-	-	-	-	
d) above 18 years									

6. Menstrual cycle:									NS
a) Regular	-	-	7	23.3	9	30	2	6.6	5.28
b) Irregular	-	-	4	13.3	6	20	2	6.6	NS
7.Religion									4.11
a) Hindu	-	-	9	30	10	33.3	3	10	
b) Muslim	-	-	2	6.6	2	6.6	-	-	NS
c) Christian	-	-	-	-	3	10	1	3.3	3.01
8.Education:									
a) Illiterate	-	-	1	3.3	-	-	-	-	NS
b) Primary	-	-	4	13.3	12	40	1	3.3	19.07
c) Secondary	-	-	6	20	3	10	3	10	
d) Higher secondary & above	-	-	-	-	-	-	1	3.3	NS
9.Occupation:	-	-	10	3	14	46.6	3	10	12.27
a) House wife	-	-	1	3.3	-	-	1	3.3	
b) Agriculture	-	-	-	-	1	3.3	-	-	
c) Private employee	-	-	-	-	-	-	-	-	
d) Government employee	-	-	-	-	-	-	-	-	
e) Others									
10. Monthly income of the family	-	-	4	13.3	4	13.3	1	3.3	
a) Less than Rs 5000	-	-	3	10	6	20	3	10	
b) Rs5,000 – 10,000	-	-	4	13.3	5	16.6	-	-	
c)Rs10,000–15,000	-	-	-	-	-	-	-	-	
d) More than Rs 15,000									

(*-P<0.05, significant, **NS=**notsignificant)

The above table shows that in experimental group, there was no significant association between the level of stress among infertile women and their selected demographic variables such as age, family type, family monthly income, type of infertility, duration of infertility, age at menarche menstrual cycle, religion, education and occupation,

It is concluded that there was no influence of the above demographic variables on the level of stress among the selected sample. Hence the positive therapy would be highly effective in reducing the level of stress.

CHAPTER V

DISCUSSION

This study is conducted to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women in selected infertility clinics in Dindigul district

The discussion was based on the objectives specified in this study.

The first objective of the study was to assess the pre and post test level of stress among infertile women in both the experimental and control group.

The findings shows that in the experimental group on the level of stress, 11(36.67%) had mild stress, 15(50%) had moderate stress, 4(13.3%) had severe stress and no one had low stress respectively. Whereas in post-test scores on the level of stress 11(36.7%) were had low stress 11(36.67%) had mild level of stress, 8 (26.67%) had moderate stress and no one had severe stress respectively.

The pre-test scores on the level of stress in control group, 12(40%) had mild stress, 14(46.67%) had moderate stress, 4(13.3%) had severe stress and no one had low stress. respectively. Whereas in post-test scores on the level of stress 12(40%) were had mild stress, 14(46.67%) had moderate stress, 4(13.3%) had severe stress and no one had low stress respectively. These findings revealed that, in experimental group after the positive therapy, the level of stress among infertile women was reduced as compared with pre test.

The above findings consistent with the findings of an experimental study conducted by **Jayasudha (2014)** to determine the impact of positive therapy upon the stress levels in infertile women attending the selected Centre for reproductive

medicine at selected hospitals, Coimbatore. Her findings show that in Experimental Group (N=60) the level of stress ,10(16.7%) had low stress,9(15%) had average stress, 21(35%) had moderate high stress, 19(31.7%) had high stress. Whereas in post test score on the level of stress, majority 60(100%) of them had low level of stress.

In control group the pre-test scores on the level of stress 7(11.7%) were had low stress, 8(13.3%) had average stress, 23 (38.3%) had moderate stress 22,(36.7%) had high stress . It is concluded that the majority of them had moderate level of stress.

The second objective of the study was to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women in the experimental group.

In experimental group, the calculated overall 't' test value is 8.15 which was highly significant at $P<0.001$ level. It is concluded that positive therapy was highly effective in reducing the level of stress among infertile women in experimental group.

The above findings consistent with the findings of the an experimental study conducted by **Jayasudha (2014)** with an objective to determine the impact of positive therapy upon the levels of stress in infertile women. In her study, the overall calculated 't' test value of experimental group was 38.32 which was highly significant. The study concluded that the positive therapy was highly effective in reducing stress in infertile women.

The third objective of this study was to find out the association between the level of stress among infertile women and their selected demographic variables.

There was a significant association between the occupation, type of infertility with the level of stress among infertile women in control group. There was no association between the level of stress among infertile women and their demographic

variables such as age, religion, education, family type, monthly income of the family, duration of infertility, age at menarche and menstrual cycle.

In experimental group, there was no significant association between the level of stress among infertile women and their demographic variables such as age, religion, education, occupation, family type, monthly income of the family, type of infertility, duration of infertility, age at menarche and menstrual cycle. It shows that there was no influence of demographic variables on level of stress. It is concluded that the positive therapy was highly effective.

The above findings are consistent with the findings of an explorative study conducted by **Shodhganga(2012**), to determine the "Bio-psycho-social dimensions and health behavior in infertile women" at Apollo Hospitals, Chennai with the objective of finding the association between demographic variables and the psycho-social and health behavioral variables. The study concluded that there was a significant association between stress and the demographic variables of age, education, type of family and years of infertility at a significant level of $P < .001$. These selected variables show influence on the stress level.

CHAPTER - VI

SUMMARY AND RECOMMENDATIONS

This chapter deals with the summary and conclusion. It focuses on the implications and gives recommendations for Nursing practices, Nursing research, Nursing administration, and nursing education.

SUMMARY:

The purpose of the study was to evaluate"the effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics in Dindigul district".

The objectives of the study are,

1. To assess the pretest and post test level of stress among infertile women in experimental group and control group.
2. To evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women in the experimental group.
3. To find out the association between the level of stress among infertile women and their selected demographic variables.

The design of the study was Quasi experimental non equivalent control group pre and post test design. The conceptual frame work based on Wiedenbach's Helping Art Model for Clinical Practices (1964). It consists of three factors namely, central purpose, prescription, and realities of the situation. The basic assumption of the theory was the nurse has to identify the client needs, ministering the needed help and finally validating that the need for help was met.

The sample size consists of 60 infertile women between 25-40 years attending the selected infertility clinics at Dindigul district. 30 samples were assigned for the experimental group and 30 for the control group. Pretest data was collected by researcher using modified fertility problem inventory for both the groups on 2nd day of LMP. Experimental group received positive therapy. No Intervention was given to control group. Post test was conducted by the researcher for both the groups by using the same scale on the 21st day. The data was analyzed by using both descriptive and inferential statistics.

Major findings of the study:

Demographic variables of the infertile women

In experimental group, majority 13(43.33%) of the infertile women were belonged to the age group of 25-28 years, 22(73.33%) of them were Hindus, 16 (53.33%) had completed their primary education, 27(90%) were housewives, 12(40%) of their monthly income of the family was 5000-10,000, 21(70%) belonged to nuclear family, 22(73.3%) had primary infertility, 20 (66.67%) had 3-5 years duration of infertility, 17 (56.67%) of them attained menarche in between 13-15 years and 18 (60%) had regular menstrual cycles.

In control group, majority, 17(56.67%) of the infertile women belonged to the age group of 25-28 years, 26(86.67%) of them are Hindus, 20 (66.67%) had primary education, 29(96.67%) were housewives, 14(46.67%) of their monthly income of the family was Rs less than 5000, 24(80%) belonged to nuclear family, 25(83.33%) had primary infertility, 11 (66.67%) had 6-8 years duration of infertility, 21 (56.67%) of them attained menarche in between 13-15 years and 18 (60%) had regular menstrual cycles.

Level of stress by using modified fertility problem inventory

Regarding the level of stress among infertile women in control group, 12(40%) were had mild stress, 15(50%) had moderate level of stress, 3(10%) had severe stress in post test. Whereas the level of stress among infertile women in experimental group, 11(36.7%) were had low stress 11(36.67%) had mild stress, 8 (26.67%) had moderate level of stress in post test.

These findings revealed that the level of stress among infertile women was decreased in experimental group as compared with the control group.

Comparison of level of stress before and after administering positive therapy in control and experimental group

The calculated value of 't' test regarding control group for social concern was 0.04, sexual concern was 2, relationship concern was 2.16, rejection of childfree lifestyle was 1.27 and need for parenthood was 1.91, overall calculated value of 't' test was 0.63 which was not significant at $P<0.05$ level. It is concluded that there was no much difference in the pre and posttest level of stress among infertile women in control group.

The calculated value of 't' test regarding experimental group for social concern was 6.2, sexual concern was 6.18, relationship concern was 5.51, rejection of childfree lifestyle was 8.77 and need for parenthood was 8.01, overall calculated value of 't' test was 8.15 which was highly significant at $P<0.001$ level. It is concluded that positive therapy was highly effective in reducing the level of stress among infertile women.

Comparison of post test scores of experimental and control group

In comparing the post test scores of experimental and control group, calculated value of 't' test for social concern was 3.307, sexual concern was 3.67, relationship concern was 3.406, rejection of childfree lifestyle was 14.76 and need for parenthood was 3.11, overall calculated value of 't' test was 3.46 which was highly significant at $P<0.001$ level. It is concluded that the positive therapy was highly effective in

reducing the stress in experimental group among infertile women as compared with control group.

Association between the level of stress among infertile women and their selected demographic variables

There was a significant association between the occupation and type of infertility and the level of stress among infertile women in control group. And was no association between the level of stress among infertile women in control group and their demographic variables such as age, religion, education, family type, monthly income of the family, duration of infertility, age at menarche and menstrual cycle.

Whereas in experimental group, there was no significant association between the level of stress among infertile women and their demographic variables such as age, religion, education, occupation, family type, monthly income on the family, type of infertility, duration of infertility, age at menarche and menstrual cycle.

CONCLUSION

The main conclusion of present study was the positive therapy could effectively reduce the level of stress among infertile women. This study clearly stated that positive therapy plays a vitol role in reducing the level of stress among infertile women

IMPLICATIONS

. The findings of the study had several implications in following field. It can be discussed in four areas namely Nursing practice, Nursing administration, Nursing education and Nursing research.

Nursing service:

- In service education to nursing personnel at hospital and community, it helps to improve the knowledge regarding infertility.
- The findings of the study will help the health care professionals to create awareness for women regarding benefits of positive therapy and reduce the level of stress among infertile women.

- Nurses should counsel all the infertile women as a routine practice to reduce their stress .

Nursing administration:

- Nurse administrator should plan to conduct alternative therapies to reduce the level of stress among infertile women.
- The nurse administrator should recommend to allocate funds for educational materials like pamphlets, models, slides, flexes which contain information about infertility.
- The nurse administrator can encourage staff nurse, student nurse and infertile women to involve in research activities of infertile problems and alternative therapies.

NURSING EDUCATION:

- Nurse educator must update knowledge about infertile problems and alternative therapies.
- Nurse educator should teach nursing students to gain skills in identifying infertile problems and can be give effective positive therapy to reduce the level of stress among infertile women.
- Nurse educator should recommend the curriculum committee to insist the importance of positive therapy in reducing stress among infertile women in the nursing curriculum.

Nursing research:

- The findings of the study helps to expand their scientific body of professional knowledge upon which further research can be conducted.
- Large scale studies can be conducted in consideration of other contributing variables.

Limitations:

- The researcher finds difficult to get better co-operation from the infertile women.
- Randomization of samples could not be done.

RECOMMENDATIONS:

- A similar type of study can be conducted as a comparative study for urban and rural areas.
- It can be conducted in longer period of time.
- This type of study can be conducted by following randomization procedure.

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APPENDICES

APENDIX I

SAKTHI COLLEGE OF NURSING

(Approved by Govt. of Tamilnadu, Recognised by INC, TNC & Affiliated to Dr. M.G.R. Medical University)

Sakthi Nagar, Dindigul - Palani Main Road,
Palakkanuthu - (Po.),
Oddanchatram - 624 619.
Dindigul (Dt.), Tamilnadu.

Phone : 0451 - 2050272
Mobile : 97509 56810
Fax : 0451-2554317
E-mail : sakthinursingcollege@gmail.com

Dr.K.Vembanan, M.B.B.S., M.S.,
Chairman

PERMISSION LETTER

From

The Principal,
Sakthi College of Nursing,
Oddanchatram, Dindigul (Dt)

To

The Advisor,
Kasthurba Hospital,
Gandhigramam, Dindigul (Dt).

Respected Sir / Madam,

Sub.: Request for permission to conduct research study – reg.

MRS. SUVARCHALA MEDARAMITLA is a bonafide M.Sc., Nursing student studying in our college. As a partial fulfillment of The Tamilnadu Dr. MGR Medical University requirement for the award of the M.Sc., Nursing Degree, she is undertaking (A QUASI EXPERIMENTAL STUDY TO EVALUATE **"THE EFFECTIVENESS OF POSITIVE THERAPY IN REDUCING STRESS AMONG INFERTILE WOMEN ATTENDING THE SELECTED MATERNITY HOSPITALS AT DINDIGUL DISTRICT")**, she has identified your centre as the best place to conduct the study.

Further details of the proposed project will be furnished by the student personally. She will not hinder your routine in any way and she will abide to the rules and regulations of the institution. All the information collected from institution will be kept confidential.

I kindly request you to grant her permission to conduct the study at your esteemed institution.

Thanking you,

Yours sincerely,

Date :

Place : Oddanchatram.

Principal
Sakthi College of Nursing
Sakthi Nagar, Palakkanuthu
Dindigul - (Dist)
624 624

APPENDIX-II
LETTER SEEKING EXPERT OPINION AND CONTENT VALIDITY

From

Mrs.Suvarchala,
M.Sc (Nursing) II Year,
Sakthi college of Nursing,
Oddanchatram, Dindigul.

To

Respected Madam/Sir,

Sub: Requisition for expert opinion and content validity regarding.

I am a M.Sc. (Nursing) II year student of Sakthi College of Nursing, Oddanchatram, Dindigul, under Dr. M.G.R. Medical university. As a partial fulfillment of my M.Sc. (Nursing) degree program, I am conducting a research study on "**A quasi experimental study to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics in Dindigul district"**

I am sending the tool for content validity and for your expert & valuable opinion. I will be very thankful if you return it at the earliest. Here with I have enclosed the necessary documents.

Thanking you,

Yours sincerely,

Enclosure:

1. Statement of the problem & objectives of the study.
2. Tool for data collection.
3. Brief note on the research methodology and intervention tool.
4. Certificate of content validity.

APPENDIX-III

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by Mrs.Suvarchala, MSc (N) II Year student of Sakthi College of Nursing for the conduction of the research study on **"A quasi experimental study to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics in Dindigul district"** is valid. She can proceed in conducting data collection.

Signature

Place:

Date:

APPENDIX-III

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by Mrs.Suvarchala Medarmitla, MSc(N) IInd Year student of Sakthi College of Nursing for the conduction of the research study on **"A Quasi experimental study to evaluate the effectiveness of positive therapy in reducing stress among infertile women attending the selected maternity hospitals at Dindigul district"** is valid. She can proceed in conducting data collection.

Signature

Dr. J. Amala Devi,
M.B.B.S., M.D.,
Senior Consultant
Annai Perinbam Hospital
56, Pandiyan Nagar

Place: Dindigul

Date: 15/02/15

APPENDIX- IV

Alternative Medicine College

Selva Vinayakar Nagar, Bellathi (Post), Karamadai, Coimbatore- 641104, Tamil Nadu, India.

Run by Athma Trust, Registered by Government Of TamilNadu,India. Reg.No.16/2012

Reg by Global Alternative Medical Association (GAMA)

www.alternativetherapycourses.com

AMI 1998

CERTIFICATE

This Diploma in POSITIVE THERAPY *has been awarded to* Mrs. SUVARCHALA MADARAMITLA *on his/her successful completion of the course and on having satisfied us about ability to practice.*

Registered No. : AMC/AT/14/0412

Place : Karamadai

Date : 30-12 -2014

ALTERNATIVE MEDICINE COLLEGE ★ INDIA

Course Director

Dr. R. SENTHIL KUMAR M.D.(Acu),Ph.D.(Yoga)
Yoga & Alternative Medicines Practitioner & Trainer

APPENDIX – V

LIST OF EXPERTIES

1. **Prof.V.JanahiDevi ,M.Sc(N).,**

   Principal,

   Sakthi College Of Nursing,

   Oddanchatram,

   Dindigul.

2. **Asst.Prof.Mrs.Amutha,M.Sc(N).,**
   SPC Institute of nursing educational and research centre,
   Achankuttapatti,
   Harur main road.
   Salem.

3. **Asst.Prof.Mrs.Abra pearl,M.Sc(N).,**
   Reader.
   Christian college of nursing,
   Ambilikkai,
   Dindigul

4. Asst **.Prof.Mrs.Kasthuri,M.Sc(N).,**
   Reader,
   Bishop college of nursing,
   Dharapuram,
   Thirupur .

5. Asst **.Prof.Mrs .Shanthi,M.Sc(N).,**
   Parijatha street,
   Ganapathy nagar,
   Madurai.

6. Asst **.Prof.Mrs .Margret,M.Sc(N).,**
   Kilaparavai,
   Moolaithattu,
   Kiliyur,
   Kanyakumari.

7. **Dr.Mrs.Amala Devi,M.B.B.S.,M.D.,D.G.O.,**
   Annai perinbam hospital,

Dindigul.

APPENDIX – VI

CERTIFICATE OF ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation "A quasi experimental study to evaluate the effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics at Dindigul district" by Mrs. Suvarchala, M.Sc (N) –II year student of Sakthi College Of Nursing was edited for English language appropriateness by **Mrs.D.Maheswari, M.A., M.ED., M.PHIL., Asst.Professor of English** , working in Sakthi College of Arts and Science.

D. Maheswari

Signature

Sakthi College of Arts and Science for Women
Sakthi Nagar, Palakkanuthu (Po),
Oddanchatram - 624619, Dindigul Dist.

APPENDIX – VII

CERTIFICATE OF TAMIL EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation "A quasi experimental study to evaluate the ctiveness of positive therapy in reducing the level of stress among infertile women nding the selected infertility clinics at Dindigul district" by Mrs. Suvarchala, M.Sc –II year student of Sakthi College Of Nursing was edited for Tamil language ropriateness by **Mrs.S.Dhanalakshmi, M.A., M.ED., M.PHIL., PHD.,HOD of mil** department, working in Sakthi College of Arts and Science.

S. Dhanalakshmi

Signature

Sakthi College of Arts and Science for
Sakthi Nagar, Palakkanuthu (Po),
Oddanchatram - 624619, Dindigul Dist.

APPENDIX - VIII

SAKTHI COLLEGE OF NURSING

CERTIFICATE FOR ETHICAL CLEARANCE

Committee members **Chairman** 1. Mrs.Janahi Devi, M.Sc (N) in Paediatric Nursing, Principal, Sakthi College of Nursing **Members** 1. Dr.Vembanan .M.B.B.S,M.S., President, Sakthi educational institution. 2. Dr.Amala Devi. M.B.B.S.,M.D.,D.G.O., Annai perinbam hospital 3. Mrs.Shoba.E.Merina, M.Sc(N) in Medical Surgical Nursing, Vice principal, Sakthi College of Nursing. 4. Mrs.T.Ganga Eswari, M.Sc(N) in Obstetrics and Gynecological Nursing Associate professor.	This is to certify that Mrs.Suvarchala, M.Sc.Nursing student , Obstetric and Gynecological Nursing, submitted a protocol on study as Effectiveness of positive therapy in reducing the level of stress among infertile women attending the selected infertility clinics in Dindigul district. The above protocol was received by ethical committee approved and mentioned that the study is feasible to carry out under the guidance of an eligible guide. **Signature of the Chairman**

APPENDIX - IX

PART- I:

DEMOGRAPHIC VARIABLES

Introduction to Participants:

Dear Participants,

This section consists of the personal information and you are requested to answer the question correctly. The information collected from you will be kept confidential.

1) Age

a) 25-28 years ( )

b) 29-32years ( )

c) 33- 36years ( )

d) 37-40years ( )

2) Family type

a) Nuclear family ( )

b) Joint family ( )

3) Type of infertility

a) Primary infertility ( )

b) secondary infertility ( )

4) Duration of infertility

a) More than 3 years ( )

b) 3-5 years ( )

c) 6-8years ( )

d) above 8 years ( )

5) Age at menarche

a) 10-12 years ( )

b) 13-15 years ( )

c) 16-18 years ( )

d) above 18 years ( )

6) Menstrual cycle

a) Regular ( )

b) Irregular ( )

7) Religion

a) Hindu ( )

b) Muslim ( )

d) Christian ( )

8) Educational status

a) Illiterate ( )

b) Primary education ( )

c) Secondary education ( )

d) Higher secondary & above \( )

9) Occupational status

a) Housewife ( )

b) Agriculture ( )

c) Private employee ( )

d) Government employee ( )

10) Monthly income of the family

a) less than Rs 5,000 ( )

b) 5,000-10,000 ( )

c) 10,000-15,000 ( )

d) above Rs 15,000 ( )

PART-II

MODIFIED FERTILITY PROBLEM INVENTORY (FPI) The Fertility Problem Inventory is designed to measure your distress, beliefs, and attitudes related to infertility. Please answer as accurately as possible. Simply mark your choice for each item with an "X".	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree 5 4 3 2	Strongly Agree
Social concern 1) It doesn‟t bother me when I‟m asked questions about children.						
2) Family members don‟t seem to treat us any differently						
3) *Family get-togethers are especially difficult for me.						
4) *I find it hard to spend time with friends who have young children						
6) It doesn't bother me when others talk about their children 5) *When I see families with children I feel left out.						

Sexual concern 7) *I find I've lost enjoyment of sex because of the fertility problem						
8) I feel just as attractive for my partner as before						
9) *I feel like I've failed at sex.						
10)*During sex, all I can think about is wanting a child (or another child).						
11)* Having sex is difficult because I don't want another disappointment						
12)* If we miss a critical day to have sex, I can feel quite angry.						
Relationship concern 13)*I can't show my partner how I feel because it will make him/her feel upset.						
14) *My partner doesn't understand the way the fertility problem affects me.						
15) My partner and I work well together handling questions about our infertility.						
16) *My partner is quite disappointed with me						
17)*When we try to talk about our fertility problem, it seems to lead to an argument.						
18)* Because of infertility, I worry that my partner and I are drifting apart.						
Rejection of childfree lifestyle 19) Couples without a child are just as happy as those with children						

20) I could see a number of advantages if we didn't have a child (or another child).						
21)Not having a child (or another child) would allow me time to do other satisfying things.						
22) Having a child (or another child) is not necessary for my happiness.						
Need for parenthood 23)* Pregnancy and childbirth are the two most important events in a couple's relationship						
24) *For me, being a parent is a more important goal than having a satisfying career.						
25)*A future without a child (or another child) would frighten me						
26)* I feel empty because of our fertility problem.						
27) Having a child (or another child) is not the major focus of my life.						
28) I will do just about anything to have a child (or another child).						

SCORING PROCEDURE

1. Positively phrased items* are first re-keyed as follows;

(6=1, 5=2, 4=3, 3=4, 2=5, 1=6)

2. Global Stress is calculated by summing all items (or all 5 subscale scores)

SCORE INTERPRETATION:

SCORE	**LEVEL OF STRESS**
< 25%	Low stress
26- 50%	Mild stress
51-75%	Moderate stress
>75%	High stress

PART – III

SCORING SHEET

MODIFIED FERTILITY PROBLEM INVENTORY (FPI) The Fertility Problem Inventory is desig2WAned to measure your distress, beliefs, and attitudes related to infertility. Please answer as accurately as possible. Simply mark your choice for each item with an "X".	**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree 5 4 3 2**	**Strongly Agree**
Social concern 1) It doesn‟t bother me when I‟m asked questions about children.	6	5	4	3	2	1
2) Family members don‟t seem to treat us any differently	6	5	4	3	2	1
3) *Family get-togethers are especially difficult for me.	1	2	3	4	5	6
234564) *I find it hard to spend time with friends who have young children	1	2	3	4	5	6

6) It doesn't bother me when others talk about their children1 5) *When I see families with children I feel left out.	6	5	4	3	2	1
Sexual concern 7) *I find I've lost enjoyment of sex because of the fertility problem	1	2	3	4	5	6
8) I feel just as attractive for my partner as before	6	5	4	3	2	1
9) *I feel like I've failed at sex.	1	2	3	4	5	6
10)*During sex, all I can think about is wanting a child (or another child).	1	2	3	4	5	6
11)* Having sex is difficult because I don't want another disappointment	1	2	3	4	5	6
12)* If we miss a critical day to have sex, I can feel quite angry.	1	2	3	4	5	6
Relationship concern 13)*I can't show my partner how I feel because it will make him/her feel upset.	1	2	3	4	5	6
14) *My partner doesn't understand the way the fertility problem affects me.	1	2	3	4	5	6
15) My partner and I work well together handling questions about our infertility.	6	5	4	3	2	1
16) *My partner is quite disappointed with me	1	2	3	4	5	6
17)*When we try to talk about our fertility problem, it seems to lead to an argument.	1	2	3	4	5	6
18)* Because of infertility, I worry that my partner and I are drifting apart.	1	2	3	4	5	6

Rejection of childfree lifestyle 19) Couples without a child are just as happy as those with children	6	5	4	3	2	1
20) I could see a number of advantages if we didn't have a child (or another child).	6	5	4	3	2	1
21)Not having a child (or another child) would allow me time to do other satisfying things.	6	5	4	3	2	1
22) Having a child (or another child) is not necessary for my happiness.	6	5	4	3	2	1
Need for parenthood 23)* Pregnancy and childbirth are the two most important events in a couple's relationship	1	2	3	4	5	6
24) *For me, being a parent is a more important goal than having a satisfying career.	1	2	3	4	5	6
25)*A future without a child (or another child) would frighten me	1	2	3	4	5	6
26)* I feel empty because of our fertility problem.	1	2	3	4	5	6
27) Having a child (or another child) is not the major focus of my life.	6	5	4	3	2	1
28) I will do just about anything to have a child (or another child).	6	5	4	3	2	1

gphpT –m

jdpegh; gw;wpa Neh;fhzy; gbtk;

1. taJ

   m) 25-28 ( )

   M) 29-32 ( )

   ,) 33-36 ( )

   <) 37-40 ( )

2. FLk;gj;jpd; tif m)

   jdpf;FLk;gk; ( )

   M) $l;Lf;FLk;gk; ( )

3. Foe;ijapd;ik tif

   m) Kjy; epiy ( )

   M) ,uz;lhk; epiy ( )

4. Foe;ijapy;yhj fhyq;fs;

   m) <3 tUlk; ( )

   M) 3-5 tUlk; ( )

,) 6-8 tUlk; ( )

<) 8 tUlq;fSf;F Nky; ( )

5. G+g;nga;j taJ

m) 10-12 tUlk; ( )

M) 13-15 tUlk; ( )

,) 16-18 tUlk; ( )

<) 18 tUlq;fSf;F Nky ( )

6. khjtplha; Row;rp

m) Kiwahd Row;rp ( )

M) Kiwaw;w Row;rp ( )

7. kjk;

m) ,e;J ( )

M) K];yPk; ( )

,) fpwp];bad; ( )

8. fy;tpj;jFjp

m) Muk;g epiyf;fy;tp ( )

M) cah;epiyf;fy;tp ( )

,) Nky;epiyf;fy;tp kw;Wk; mjw;F Nky; ( )

9. njhopy;

m) FLk;gj;jiytp ( )

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t. vz;	rKjhag; gpur;ridfs;	cWjpahf ;stpy;iy	xg;Gf;nfhs;stpy;iy	rpwpjsT ;stpy;iy	rpwpjsT f;nfhs;fpNwd	xg;Gf;nfhz;Nld;	cWjpahf ;fpNwd;
1.	Foe;ijia gw;wp Nfl;Fk;NghJ vdf;F vJTk; Njhd;wtpy;iy						
2.	FLk;g cWg;gpdh;fs; vq;fis jtwhf elj;jtpy;iy						
3. *	FLk;g cWg;gpdh;fs; midtUk; xd;W $Lifapy; vdf;F kdtUj;jkhf cs;sJ.						
4. *	Foe;ijfSld; ,Uf;Fk; vdJ ez;gh;fSld; vd;dhy; rhpahf Neuk; nrytopf;f fbdkhf cs;sJ						
5. *	Foe;ijfSld; ,Uf;Fk; FLk;gj;ijg; ghh;j;jhy;> ehd; jdpikahf ,Ug;gij epidf;fpNwd;.						
6.	kw;wth;fs; jq;fsJ Foe;ijfisg; gw;wp NgRk;nghOJ vdf;F vJTk; Njhd;wtpy;iy						

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2.	vdJ fztdpd; kPJ vdf;F clYwtpw;fhd <h;g;G Kd;G ,Ue;jJ NghyNt ,g;NghJk; ,Uf;fpwJ						
3. *	clYwtpy; ehd; Njhy;tpaile;jjhf epidf;fpNwd;						
4.	clYwtpd; NghJ vdf;Ff; Foe;ijNtz;Lk; vd;w vz;zk; kl;LNk Njhd;WfpwJ.						
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6. *	clYwtpy; <LgLtjw;F jFe;j ehl;fs; jtwpdhy; vdf;Ff; Nfhgkhf tUfpwJ.						
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1. * *	vd;Dila kdepiyia vdJ fzthplk; fhl;b mtiuAk; tUj;jkila tpUg;gkpy;iy						
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3.	ehDk; vdJ fztUk; xd;whfr; Nrh;e;J Foe;ij ,y;yhjjw;fhf vOk; rthy;fis rhpahf rkhspf;fpd;Nwhk;						
4. *	vdJ fzth; vd; kPJ Nfhgkhf cs;shh;						

5. *	Foe;ijapd;ik gw;wp ehDk; vdJ fztUk; NgRk;NghJ vq;fSf;Fs; rz;il tUfpwJ						
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2.	Foe;ijapy;yhky; ,Ug;gij xU ed;ikahff; fUfpd;Nwd;.						
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ngw;Nwhuhtjpd;; mtrpak;							
1. *	fztd; kidtp cwTf;F Kf;fpakhd fhuzkhf ,Ug;gJ fUTWjYk;> Foe;ij gpwg;gJNk.						
2. *	ehd; Ntiyapy; ,Ug;gijtpl ngw;Nwhuha; ,Ug;gNj Kf;fpakhd ,yl;rpakhf fUJfpNwd;.						
3. *	Foe;ij ,y;yhj vdJ vjph;fhyk; gakhf cs;Sj						
4. *	Foe;ijapd;ik vdJ tho;f;ifia xU ntw;wplkha; epidf;fj; Njhd;WfpwJ						
5. *	Foe;ij kl;LNk tho;f;ifapd; Nehf;fk; ,y;iy						

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APPENDIX-X

ADMINISTERED POSITIVE THERAPY

INTRODUCTION

Infertility involves suffering and being childlessness, is a psychological trauma and it is this perceived undesirability that prompts patients & couples to seek professional help. Not everyone has the goal of becoming a parent, but for those who do, being unable to conceive a child is an exquisitely painful reality. Many of the people spend a portion of their lives attempting to avoid unplanned pregnancies, and assume that once they are ready to conceive, it will happen with little difficulty. The belief that psychological factors play a role in infertility is long-standing, and there is evidence that stress levels influence the outcome of infertility treatment, as well as contribute to patients' decisions to continue treatment. Stress also

affects patients' reactions to pregnancy loss during infertility treatment and pregnancy complications. Moreover, psychological distress is associated with infertility treatment failure, and interventions to relieve stress are associated with increased pregnancy rates.

PREVALENCE OF INFERTILITY

Infertility is a acquiring a portion of global epidemic with the prevalence rate of approximately 8-12%. It is estimated that globally 60-80 million couples suffer infertility every year of which probably between 15-20 million (25%) are in India alone. According to WHO ,at the end of 2012 ,one in every 4 couples in developing countries had been found to be affected by infertility.

Infertility rate increases with age

Age Group (years)	Percent Infertile
20 - 24	7 %
25 - 29	9 %
30 - 34	15 %
35 - 39	22 %
40 - 44	29 %

PREVALENCE OF STRESS IN INFERTILITY WOMEN

Nobel (2005) stated that depression in women is the leading cause of disease related disability among women. Epidemiological studies have shown that the life time prevalence of a major depressive disorder in women (21.3%) is almost twice that in men (12.7%). The biological process were thought to be the predisposing factors for women to depression including genetic ally determined vulnerability, undue sensitivity to such hormonal fluctuations in biological systems may cause depression.

Psychological events such as role –stress, victimization, sex – specific socialization, internalization coping style, and poor social support system have been considered as contributing factors for women to develop depression.

DEFINITION OF INFERTILITY

Infertility is defined as the Failure to become pregnant after one year or more of unprotected intercourse, or six months if over 35 years old.

Primary infertility is defined as a couple who has never been pregnant.

Secondary infertility describes a couple who are having trouble conceiving again, even though they have previously achieved pregnancy.

DEFINITION OF STRESS

Stress is a non specific response of the body to any demand characterized by the secretion of Glucocorticoids.

Stress is a complex pattern of cognitive appraisals , physiological responses , and behavioural tendencies that occur in response to a perceived imbalance between situational demands and their resources needed to cope with them.

Infertility-related stress can be defined as the anxious response of the individual to the demand

(or stressor) of infertility.

STAGES OF STRESS (General Adaption Syndrome)

Going through a series of steps, one's body consistently works to regain stability. With the general adaptation syndrome, a human's adaptive response to stress has three distinct phases:

ALARM STAGE -

Your first reaction to stress recognizes there's a danger and prepares to deal with the threat, the fight or flight response. Activation of the HPA axis, the nervous system (SNS) and the adrenal glands take place.During this phase the main stress hormones cortisol, adrenaline, and noradrenaline, is released to provide instant energy **If this energy is repeatedly not used by physical activity, it can become harmful.** Too much adrenaline results in a surge of blood pressure that can damage blood vessels of the heart and brain – a risk factor in heart attack and stroke. The excess production of the cortisol hormone can cause damage to cells and muscle tissues. Stress related disorders and disease from cortisol include cardiovascular conditions, stroke, gastric ulcers, and high blood sugar levels.At this stage everything is working as it should – you have a stressful event, your body alarms you with a sudden jolt of hormonal changes, and you are now immediately equipped with enough energy to handle it.

RESISTANCE STAGE -

The body shifts into this second phase with the source of stress being possibly resolved. Homeostasis begins restoring balance and a period of recovery for repair and renewal takes place.Stress hormone levels may return to normal but **you may have reduced defenses and adaptive energy left.** If a stressful condition persists, your body adapts by a continued effort in resistance and remains in a state of arousal. Problems begin to manifest when you find yourself repeating this process too often with little or no recovery. Ultimately this moves you into the final stage.

EXHAUSTION STAGE -

At this phase, the stress has continued for some time. One's body's ability to resist is lost because its adaptation energy supply is gone. Often referred to as

overload, burnout, adrenal fatigue, maladaptation or dysfunction – **Here is where stress levels go up and stay up!**

The adaptation process is over and not surprisingly; **this stage of the general adaptation syndrome is the most hazardous to your health.** Chronic stress can damage nerve cells in tissues and organs. Particularly vulnerable is the hippocampus section of the brain. Thinking and memory are likely to become impaired, with tendency toward anxiety and depression. There can also be adverse function of the autonomic nervous system that contributes to high blood pressure, heart disease, rheumatoid arthritis, and other stress related illness.

EFFECT OF STRESS ON INFERTILITY

Human bodies are equipped to prevent conception from occurring during times of extreme stress. The presence of adrenalin, the hormone that is released by our bodies during stressful times, signals to their body that conditions are not ideal for conception. Adrenaline inhibits the people from utilizing the hormone progesterone, which is essential for fertility. It also causes the pituitary gland to release higher levels of prolactin, which also causes infertility to occur.

IMPACT OF STRESS ON FERTILITY

Recent research tells us that stress boosts levels of stress hormones such as cortisol, which inhibits the body's main sex hormones GnRH (gonadotropin releasing hormone) and subsequently suppresses ovulation, sexual activity and sperm count.

GnRH is responsible for the release of Luteinizing hormones and follicle-stimulating hormones by the pituitary, the suppression of testosterone, estrogens, and sexual behavior . Chronic stress may cause lack of libido as well as a decrease in general

fertility. This has become such a common issue that they have created a name for it Stress Induced Reproductive Dysfunction. These facts are very important to consider if you have been trying to conceive with no results. It also shows that stress relief should be a part of every couples conception plan even if they are going through IVF. Trying to carry a pregnancy to term during stressful times places the fetus at risk. Women with stress are generally overly tired, filled with nervous tension and may not be living a healthy style but not eating properly or worse.

ASPECTS OF THE INDIVIDUAL AND/OR COUPLE'S FUNCTIONING, WHICH CAN BE AFFECTED BY INFERTILITY, INCLUDE:

Sexuality - Lovemaking may lose its spontaneity, affection, and pleasure as a result of the temperature charting, hormone taking, and the sometimes mechanical efforts at intercourse made in order to maximize the chances of conception. Sex can become associated with feelings of stress, failure, inadequacy, and loss. It may begin to feel like an obligation, which can lead to a decreased desire for sex, orgasmic difficulties, or other sexual dysfunctions.

Self-esteem - When an individual or couple learn that they have an infertility problem, feelings of inferiority, depression, and of being physically defective can arise. Infertility can erode an individual's sense of masculinity or femininity so that he or she no longer feels sexually attractive or complete. These feelings may interfere with an individual's daily functioning and can undermine the couple's relationship as well.

Communication - Because of the guilt, anger, embarrassment, and frustration that often accompany infertility, the couple may decrease their sharing of thoughts and feelings with each other and may lose some of their former closeness. A lack of open

and honest communication between partners can result in each person feeling alone, unsupported, and misunderstood.

Withdrawal and Isolation - Although approximately 15% of couples experience infertility problems, the infertile couple often feels isolated, alone, and unique. They tend not to share their problem with others and remain unaware of the many other couples who share the same experience. Consequently, they miss out on receiving the support and understanding of other couples with the same problem.

Coping With Infertility Although there is no universal symptom pattern that characterizes infertile couples, they all are similar in that they are unable to reproduce by choice and the outcome of their medical treatment is uncertain and beyond their control. Feelings of anger, frustration, guilt, and helplessness often are present. It is important that these feelings are identified and their effects on both the individual and couple be recognized and dealt with. Support, discussion, and insight can help people reduce their emotional distress and regain a sense of control over their lives.

EMOTIONAL ASPECTS OF INFERTILITY

One of the most challenging aspects of the infertility experience is dealing with the emotional ups and downs relating to medical treatment, the uncertainty about outcomes, and the challenge of having to make important decisions such as when 'enough is enough.' It is important to learn how to take care of oneself, make sure that one get the support they need, and to manage their emotions so that their self-esteem and outlook on life remains as positive as possible.

Loss

A couple who has just been diagnosed with a fertility problem have a lot in common: a sense of loss and disappointment, and the feeling of emotions and events being out of control.

Symptoms

Even if your mind isn't consciously thinking about loss, your unconscious mind and your body may be responding to feelings of grief. Do you recognize any of the following symptoms that either appeared or worsened during your infertility experience:

- Lack of energy (especially when you have an unsuccessful cycle, on medical appointment days or when you will see a pregnant friend)
- Headaches
- Irritability (snapping at people or making mountains out of molehills)
- Insomnia
- Extreme sadness
- Inability to concentrate

Denial, Shock and Numbness

After several months of unsuccessful attempts to get pregnant or stay pregnant, feelings of shock or numbness may result. Feelings of "this can't be happening to us" or "I know next month we will be successful" begin to change over to anger and guilt.

Anger

Anger usually results from feeling vulnerable or helpless or both. Helpless feelings result from the lack of control that one may feel over their life plan, their body, and their future. This may be a new experience; previously, when one worked hard at something, they probably achieved their goal. Now you are working hard and doing everything you can to conceive, but without reaching your desired goal. A sense of

vulnerability evolves from feeling "jinxed," or feeling that life isn't fair. You may feel as if you can no longer count on anything good happening in your life.Anger can consume you, coloring your everyday thoughts and experiences. You may feel emotionally guarded, pulled between tears and sadness or anger and rage. The next time you feel angry, irritable, or frustrated, take an inventory of your body and identify how different parts of your body respond to the angry feelings. Do your legs feel weak? Does your heart beat faster? Do you feel flushed or shaky? Does your breathing change? Become familiar with how you react physically to these intense emotions.

Guilt and Shame

Shame is a searing, painful feeling associated with faltering self-esteem, and a sense of inadequacy, defectiveness and helplessness. As repeated attempts to get pregnant come to naught, there is a realization that this intensely strived-for goal has not been, and may never be, attained. As this failure becomes more and more evident, one's self-image is assaulted. It is easy to move from procedures that have failed to the feeling that "I am a failure." Anguish, self-doubt, and chronic sadness converge as couples come to think of themselves as failing, not only in realizing their own dream to reproduce and nurture, but failing their spouse, parents, and siblings as well. Because shame embodies the painful sense of self-defect, it is often hidden and disguised, even from oneself. The tragic story of chronic infertility is that, over a period of time, the sense of failure gradually and imperceptibly spreads like a shadow over a person's experience, while simultaneously the sense of other competencies gradually becomes obscured.

COPING WITH THE STRESS OF INFERTILITY

Infertility is a medical condition that can touch every aspect of their life -- from the way they feel about theirself, to their relationship with their partner, to their overall perspective on living. It can also be stressful in that it creates a great deal of uncertainty and emotional disturbances in their day-to-day world. For coping with such disturbances and stress you have to focus attention on your mind and body which will bring a calmer perspective to their life.

1. Acknowledge your feelings. The first step in reducing stress is to understand that what you're feeling is completely normal. Going through infertility tests and procedures month after month can be emotionally, physically, and financially draining. And feeling as if you have no control over your body -- or the ultimate outcome of your treatments -- can be stressful and debilitating as well.

2. Share your questions and fears. Share your fear and feelings with others who had conceived after infertility treatment .And also share your fear with other infertile couples,by that you'll be assured that you're not alone. And, most of all, you'll find other like-minded people who share your problems, feelings, and concerns.

3. Allow yourself to cry and be angry. It means, don't try to repress your feelings of anger, guilt, or sorrow. If you need to cry about the "unfairness" of another pregnancy or birth announcement, go ahead and do so. If you're angry and need to pound a pillow or hit a punching bag, go ahead and release your anger. If possible, try to plan a time each day when you can spend 30 to 40 minutes focusing on your feelings about infertility, and let the feelings come up. By addressing and releasing your emotions, you're likely to feel much better and have more energy to cope. Mental digestion should be completed before going to sleep. Otherwise it will cause reprinting in your mind which will further leads to extreme stress.

4. Allow yourself to grieve. Even though you hope to have a successful pregnancy, your unconscious mind has already begun grieving for the biological child you've not yet had. Since unresolved grief can be a major source of anxiety, you'll have to go through a period of mourning in order to feel better again. (Think of this period as "grieving a dream.") Whether you talk to your partner or to a trusted friend, or simply write down your feelings, be sure to acknowledge and work through your grief -- and then let it go.

6. Stay connected to family and friends. Another step in reducing stress is to build a bridge back to your family and close friends. Though you may feel a strong connection toward friends or acquaintances who are having fertility problems, it also helps to allow those who are closest to you to offer their love and support. If your friends and relatives are uninformed about infertility, you'll need to educate them about what you're going through. You might recommend a good book on the subject, explain how certain remarks are insensitive (even if they're unintentional), or let your loved ones know how you want to be treated. For instance, you might say, "Let me cry when I'm upset," or "I can't really talk about baby showers right now."

7. Communicate with your partner. Infertility can take a toll on a marriage, often causing unspoken resentment, feelings of inadequacy, sexual pressure, and tension between couples. Talking to your partner about your feeling will make you feel less isolated and will allow you to cope with infertility together.

8. Try a little tenderness. Another way to reconnect with your partner is by reestablishing intimacy in both nonsexual and sensual ways. For instance, you can make your partner a special meal or drink, buy him/her a fun present, or simply hug, hold hands, go for a walk, or give and receive relaxing back rubs. You can also enjoy sensual contact that doesn't lead to intercourse, by taking a shower or bath together,

giving each other a massage, or stimulating each other's genitals, either manually or orally.

9. Get informed. One of the worst instigators of stress is uncertainty about the future. And if you've been through many months, if not years, of infertility treatments, you've no doubt lived with uncertainty for a fairly long time. To alleviate some of your questions (and uncertainty) about the future, it helps to actively do some research on your present situation and options. For instance, you can stay current on your medical condition and treatments, research all of your infertility options, and think about alternatives (such as adoption) and whether they would work for your family. Though you can't gaze into a crystal ball and see the future, you can arm yourself with knowledge -- and achieve a certain peace of mind for now.

10. Find ways to reduce stress. The best way to calm your anxiety and lift your spirits is to rely on tried-and-true coping strategies you've used in the past. Some people, for instance, find that taking an invigorating walk or starting a new hobby helps them release tension. Others discover that reaching out to loved ones, meditating, praying, seeing a therapist, joining a support group, exercising, doing yoga, or collecting information about their problem helps them to feel better. Still others find solace in turning a negative situation into something positive or reminding themselves to "get through one day at a time.".

11. Learn to breathe. Another good way to calm down is by practicing deep-breathing techniques, either alone or with your spouse. One exercise involves sitting comfortably, with your eyes closed, and taking long, slow, deep breaths. Put one hand on your stomach ,just below the rib cage. Slowly breathe in through your nose .your stomach should feel like its rising. Exhale slowly through mouth, emptying your lungs completely and letting your stomach fall.Practice it for 15 times a day for one minute.

Try this exercise for five minutes whenever you're anxious, or with your spouse before talking about infertility. Being relaxed can make the conversation between the two of you feel less tense and more focused.

12. Stay in the present. Worry about the future & regrets about the past keep you stressed and away from enjoying the moment. You can manage distress by focusing on the present & can control focus by paying attention too.

Mindful awareness; Close your eyes & breathe . notice your body ,how the heart beats , how the intake of air feels, how the stomach feels. Shift your awareness away from the body to everything else that you can smell , hear ,sense & feel through skin.S hift bavk and forth between what is going on in the body and what is going on around you.Learn to control both internal & external sensations.

13. Manage your body. Adequate rest is very important. You maintain your body by taking rest, sleeping, doing exercises. Because of spending so much time, energy, and money on infertility treatments, you may have neglected your general health. It's possible, though, that at least some of your stress and malaise may be due to health factors -- particularly your diet. If you're going through a period of tension and anxiety, avoid the intake of sugar, salt, saturated fats, and white flour. You'll also want to reduce or eliminate from your diet chemical additives, alcohol, and caffeine, including colas, coffee, black tea, and hot cocoa. While taking your diet, it should be completely chewed and dissolved in the mouth itself. It protects the internal organs from impairing.

Positive Thinking for Fertility

Based on the apparent correlation between depression and infertility, many fertility specialists and therapists are suggesting that couples try to increase their fertility by directly addressing these negative thought patterns. There are a few methods now

being taught to couples struggling to conceive to help them reshape their thought patterns in the hopes that it will increase their fertility.Cognitive restructuring therapy is a type of cognitive behavior therapy and is taught by a number of different social workers, psychologists, and fertility counselors. It is a type of therapy designed to help you and your partner address negative thought patterns and shape them into more positive thoughts. It involves:

- learning to identify negative thoughts
- learning to evaluate triggers for negative thoughts
- learning to "thought stop," or engage in techniques to help stop negative thoughts before they arise
- learning to reverse negative thoughts so that they become more positive

Importance of Positive Thinking

According to recent studies, there is some merit in maintaining positive thought patterns when it comes to improving fertility. A study was performed in 2000 examining the effects of positive thinking on fertility rates in women struggling with infertility.

The 184 women involved in the study were divided into three separate groups: a cognitive restructuring group (those that took cognitive restructuring lessons), a support group (those who attended support groups to deal with the emotional stress of infertility), and a control group (those who sought no additional support for their infertility). Pregnancy rates amongst the women in the control reached only 20%, while pregnancy rates for the other two groups were between 54% and 55%. Therefore, it appears that the power of positive thought really may have an influence on your fertility.

Tips for powerful positive thinking

If you have been having a lot of negative thoughts or emotional concerns lately, it is important to practice a little bit of positive thinking. Even if it doesn't help you to conceive, positive thinking can reduce your stress greatly and help you to enjoy your day-to-day life. Here are some great tips to follow:

- **Avoid Thinking about the Past:** It can be tempting at times to dwell on decisions you should have made or actions that you should have taken. But by dwelling on the past you are only fostering more negativity and self-blame. Do your best to stop yourself from thinking about past actions and instead focus on the present.
- **Confront Your Negative Thoughts:** When negative thoughts and feelings arise, you may feel like running away or even hiding from them. But it is important to confront these feelings so that they don't have power over you. Question your thoughts and emotions and find out if they are really valid.
- **Focus on Today:** During infertility treatments, you may feel like you are constantly preparing for the future, and this can lead you to forget about the present. Instead, work to reconnect with your present life – take up a new hobby or skill, or visit with friends – and give your past and future a little break.

Simple techniques to control stress levels & lower anxiety

- Physical exercise causes the body to release a chemical called endorphin. This chemical is known to improve mental health, lower blood pressure, lower cholesterol levels and has several other health benefits. Therefore regular physical exercise is a good and easy way to lower stress levels and ensure good physical and mental health. Yoga exercise is popularly practiced across the world for stress management.

- The common hormones that cause stress are adrenaline and cortisol. Activities involving laughter and humor help in reducing these stress causing hormones. Therefore participating in activities that promote laughter and humor can help in stress management.
- Listening to your favorite music that contains soothing sounds can also help relax the mind.
- Ensure that you get adequate amount of sleep. A good sleep is restful and lowers stress.
- It is important to have a positive approach to life. Positive thinking will help to reduce the overall amount of stress that you experience.
- Relaxing in a hot bath will help reduce stress because it relaxes the tense and sore muscles and joints of the body. Relaxing in a hot homemade spa before going to bed will reduce your stress levels and also help you sleep better.
- Good nutrition also plays an important role in stress management. A good healthy meal ensures that you are energetic. Foods containing antioxidants (such as fruits and berries), omega-3 fatty acids (nuts) and green leafy vegetables help to improve your health and reduce stress levels.

APPENDIX-XI

RESEARCH CONCENT FORM

Dear Participants,

I am **Suvarchala M** M.Sc. Nursing Student of Sakthi College of Nursing, Oddanchatram. As a part of my study, a research on '**A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF POSITIVE THERAPY IN REDUCING THE LEVEL OF STRESS AMONG INFERTILE WOMEN ATTENDING THE SELECTED INFERTILITY CLINICS IN DINDIGUL DISTRICT"** is to be conducted. The study will be helpful in reducing level of stress among infertile women.

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your responses. The information collected will be kept confidential and anonymity will be maintained.

Thanking You,

Signature of the researcher

I……..hereby consent to participate and undergo the study

Place:

Date:

Signature of the participant

APPENDIX

MŒÉš g§F bfhŸs x¥òjš got«

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âUkâ.Rt®¢ryh M»a eh‹ r¡â br…ÉÈa® fšÿÇÆš br…ÉÈa® gÆ ‰áÆš KJfiy… g£l« bg…Wtj‰F gÆ‰áÆ‹ xU gFâahf ne…®kiw… gÆ‰á FHªij…Æšyhj kfËÇl« cŸs kd¢nrh®it… Fiw…¡F« v‹gij… m¿tj‰fhf MŒî br…Œ»nw…‹.

ïjdhš ïªj MuhŒ¢áÆš Ú§fŸ g§F bg…w c§fSil…a x¥òjš k‰W« x¤JiH…¥ig…í« nt…©L»nw…‹. nk…Y« c§fSil…a gâšfŸ bt…Ë¥gil… ahfî«, c©ik…ahfî« ïU¡fnt…©L«. c§fSil…a F¿¥òfŸ ïufáakhf it… ¡f¥gL« k‰W« c§fSil…a bg…a® nt…W v§F« bt…ËÆl¥glkh£lhJ.

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APPENDIX-XII

PHOTOGALLERY

INVESTIGATOR ADMINISTERING POSITIVE THERAPY

INVESTIGATOR DEMONSTRATING SASHANK EXERCISE